



# Urban Forest Strategic Plan



**FINAL**

**May 19, 2014**

# Acknowledgments

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## Vision

*Shoreline's urban forest is a healthy and cohesive ecosystem that is valued and cared for through community stewardship.*

## Mission

*Shoreline is dedicated to protect and manage the vibrant urban forest to enhance its benefit to the environment and its contribution to the livability of the community today and for generations to come.*



*The nation behaves well if it treats its natural resources as assets which it must turn over to the next generation increased, and not impaired, in value.*

- Theodore Roosevelt

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## Executive Summary

Shoreline is a community that has a passion around its urban forest. Realizing it is a valued asset that needs to be taken care of, the City needed direction on how to build a sustainable urban forestry program. Through a guided process considering all aspects and components of an initiative, City staff, the Shoreline Tree Board, and interested citizens developed a comprehensive set of goals for urban forestry. Of the key objectives, Shoreline identified these priorities to focus short-term strategies:

- Maintain climate-appropriate degree of tree cover community-wide
- Establish a diverse tree population suitable for the urban environment and adapted to the region
- Acquire a comprehensive understanding of the public tree resource to direct its management
- Implement a comprehensive urban forest management plan for public trees
- Develop and maintain adequate staff and funding to implement a city-wide urban forestry program
- Citizens understand and cooperate in urban forest management, recognizing the urban forest as vital to Shoreline's environmental, social, and economic well-being

With a clear vision of where the City wants to go, several strategies have been provided in this plan to develop the road map. Many are suggested as short-term tasks and relatively cost-effective in moving Shoreline toward a city urban forestry program. The success of the plan heavily relies on support of these strategies by both the City decision makers and the community. Adequate funding and resources committed to a program are critical to move forward and cultivate a more sustainable urban forest. In an effort to continue the momentum, the City is seeking ways to begin implementing a number of strategies and further develop a program and budget proposal as soon as possible.

## Introduction

There are many definitions for an *urban forest*, but it most commonly refers to all the trees and



associated vegetation in a community. Often trees are planted as individuals in the suburban and urban environment, though many preserved natural areas in a city have remnant native forests. Vegetation in residential and commercial landscapes also contributes to the urban forest. Therefore, a healthy urban forest is best managed as an entire forest ecosystem.

Like other progressive municipalities, Shoreline has a goal to better manage its urban forest. The City emphasized its commitment by becoming a Tree City USA in 2012. Currently the City has thousands of trees that provide tremendous benefit and have high value, but no cohesive plan for managing these assets. Realizing its limited resources, the City sought assistance in developing a strategic plan toward a more sustainable urban forestry program. With a grant from the

Washington State Department of Natural Resources, in partnership with the USDA Forest Service, the City will have a clear direction for a more effective and cost-efficient management of public trees and urban forest. Terra Firma Consulting was contracted to work with City staff and the Tree Board to develop a strategic plan that addresses how to manage and maintain public trees and lead the City to more specific action plans and budgets over time.

An urban forest strategic plan is a living document that basically outlines where Shoreline wants to go regarding its urban forest and ideas of how to get there. Part of this plan includes overarching vision and mission statements under which all goals and strategies align. In concert, a sustainable urban forestry model is utilized to demonstrate the comprehensive nature of resource management and to identify the feasible goals to strive for and key priorities in which to focus short-term action steps. The strategic recommendations in the plan are to guide the community over the next 5-10 years regarding planning, management and maintenance of public trees based on the identified goals and priorities. Annual work plans with budget implications would be generated from the strategic plan.



The plan is also intended to help promote a more unified effort to manage the entire urban forest between the City and residents, business owners, utilities, and other tree stewards in the community. Longer term strategies are also laid out to give further direction as the plan evolves and goals are achieved. The foundation of the plan ensures that Shoreline's urban forestry program can become more sustainable over time.

The development of this strategic plan is a collaborative process between City staff, the advisory Tree Board (PRCS Board), and the public, facilitated by an urban forestry consultant. As part of Tree Board development and education on urban forestry for both the staff and the citizens, a sustainable urban forestry matrix is used to guide the conversation and reach collective support for a solid framework for the plan.

## **The Urban Forest as a Natural Resource**

The City of Shoreline understands that it needs to better manage its trees and urban forest. Both staff and community make the connection that it's prudent to manage trees as assets because they



provide many tangible benefits to the community. Some of the benefits from Shoreline's urban forest\* are:

- Reduces stormwater runoff and erosion
- Provides shade and cooling for fish-bearing streams
- Improves air quality and mitigates wind effects
- Provides wildlife habitat
- Increases property values



\* For more information, see [Appendix A](#).

Every tree also has a monetary value. For example, if one is damaged by a car crash, there is a landscape value that is considered in its replacement cost. Trees, like other assets, also have maintenance costs, such as pruning young trees for structural integrity or for clearance on roadways and trails. Trees also have public safety liabilities that must be accounted for, for instance, when they get structurally unsafe or die and fall into the road or onto a park trail or sports field. A proactive mitigation program with high risk trees, which includes removal, replacement, and where appropriate, leaving snags, is responsible stewardship of the urban forest.

## Assessment of the Current Urban Forest

Recently, Shoreline had two important studies done on its urban forest. In 2011, AMEC conducted an assessment of the urban tree canopy cover for Shoreline. In 2013, Community Forestry Consultants performed a street tree inventory on the ten major corridors of the city ([Appendix B](#)). Both provided some interesting information about Shoreline's trees:



- The overall tree cover in Shoreline is estimated at 30.6%, an acceptable level to achieve significant ecosystem benefits.
- The average tree cover for Shoreline has remained steady for the last 20 years.
- Trees occupy over half of the possible planting area in the city.
- Over half of the city's area is covered with vegetation (grass, shrub, trees)
- The ecosystem value of the canopy for its stormwater storage capacity (compared to the cost of stormwater facility construction) is \$10.3 million.
- Air pollution removal is estimated at 203,000 lbs annually, which is valued at approximately \$457,000 in indirect costs.
- The 1,602 trees inventoried are estimated to have an appraised value of \$5 million.
- No trees on the ten major corridors were rated high risk.
- Only ten maintenance tasks of "high priority" or "immediate action" were identified.
- Majority of the street tree population (> 94%) on the corridors is in good or fair condition.
- The streetscape on the corridors is fairly well stocked with only 29 planting spaces identified.

## Strategic Planning Process

In order to begin the conversation about a sustainable urban forestry program for the City of Shoreline, an “urban forest sustainability” matrix was used. The three categories - vegetative resource, resource management, and community framework, along with performance indicator spectrum and key objectives, are based on a sustainability model developed by Clark, et al (1997). The criteria in each category are comprehensive in order to demonstrate all the aspects of an urban forestry program to consider when setting goals and priorities.

The matrix was distributed to the internal city Tree Team and the Tree Board (Parks, Recreation and Cultural Services Board) to introduce these concepts. Other city staff groups (Green Team and Surface Water Environmental Services) were given the matrix as well. Each recipient was instructed to indicate on the spectrum for each criterion where they see the City is *currently* and which level is the *desired* performance benchmark to achieve for Shoreline. They were also to consider which of the 24 key objectives would be potential top priorities to focus on short-term, all the while understanding that each criterion will be addressed in the strategic plan.

The numerous responses were combined onto one matrix template that was presented to the Tree Board and City staff at a retreat on October 19, 2013. Understandably, there was a broad range of responses to contend with. The entire meeting was devoted to go over each criterion in the three categories in order to reach consensus on both the desired level (goal) and the top objectives (priorities) for the strategic plan to focus on for short-term strategies. There was no discussion on budget, required resources, or timeline for any of these items, as that will be addressed in the strategic plan. The resulting matrix with the proposed goals and priorities is [Appendix C](#).

The Shoreline Tree Board hosted a public Open House on January 23, 2014 to talk about many aspects of trees. Along with the Street Tree List and Trees in Planning & Development, the three categories of the matrix with proposed benchmarks and priorities and the draft vision statement were on display at separate stations. Board members, City staff, and the consultant were available to discuss the criteria, and the public had several ways during the event to provide input on the proposed framework for the strategic plan.

In addition to the Open House, the City offered opportunity for public comment on the draft Urban Forest Sustainability Matrix and Vision Statement via online until February 7<sup>th</sup>. Comments from both the Open House and the online forum are in [Appendix G](#). The major themes of the feedback were:

- Public tree focus over trees on private property
- Need to balance tree canopy with other values, such as solar access, views, land use, and other landscaping desires
- Native plants have a place and need more emphasis
- The importance of making sure trees are safe (tree risk) needs to be highlighted
- Better coordination of tree work within the city and with other agencies (Seattle City Light)



At the same time, there were a few critical *misunderstandings* about the strategic plan:

- Plan will require an increase in canopy, especially on private property
- Plan will result in more private tree regulations
- Plan will prevent the removal of hazard trees because of tree canopy priority
- Increasing the diversity in the tree population will require removal of existing trees



The public input was very informative and resulted in some changes to both the vision statement and the key objectives. Furthermore, there was great effort to clarify throughout the document that this plan's primary focus is public tree management.

The draft plan was presented to the Tree Board at their March 27, 2014 meeting and at a second Open House on April 8<sup>th</sup> for further comment, with an open public comment period until April 14<sup>th</sup>. The limited feedback at this time resulted in "upgrading" a couple strategies to short-term in response to public desire for stewardship planning and education.

The final draft was introduced to City Council on April 28<sup>th</sup> for final adoption in May.

## **Vision & Mission Statements**

The City has several established documents and plans that have guided its programs and policies, and at least four of them resonate well with an urban forest strategy. The following language in these plans support the value of an urban forestry program.

### City of Shoreline Parks, Recreation, and Open Space (PROS) Plan (2011)

Provide quality parks, recreation, and cultural services, to promote public health and safety; protect our natural environment; and enhance the quality of life of our community.

### Shoreline Environmental Sustainability Strategy (2008)

"The City of Shoreline will exemplify and encourage sustainable practices in our operations and in our community by:

- Being stewards of our community's natural resources and environmental assets;
- Promoting development of a green infrastructure for the Shoreline community;..."

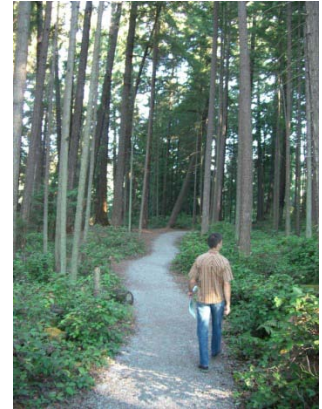
### Shoreline Climate Action Plan (2013)

Preserve urban forests and the multi-layered benefits they provide to the community, including aesthetic appeal that attracts businesses and residents, stormwater management, air quality enhancement, wildlife habitat diversity, and shade from the hot summer sun.

### City of Shoreline Vision 2029 (2009)

“People are first drawn here by the city’s beautiful natural setting and abundant trees.”

In addition to considering other City documents for key words, vision statements from Seattle and Vancouver, WA were also reviewed. After some public input, it became apparent that a separate vision and mission statement were needed. To that end, the Tree Board supports the following vision:



*Shoreline’s urban forest is a healthy and cohesive ecosystem that is valued and cared for through community stewardship.*

As mentioned before, the urban forest is considered a compilation of the trees and associated vegetation. The reference of it being an **ecosystem** engenders more of a community of organisms – plants, animals, fungi, microbes – that interact as a dynamic system. Biodiversity, disturbance, and succession are influences to the system. The urban forest is **cohesive** in nature, because it is an assemblage of both native and non-native species crossing public and private property lines making it contiguous and functioning as a system.

**Community stewardship** speaks to active management of the resource, using best practices by City and citizens alike.

For direction, a mission statement was created to capture the commitment and reason for developing on a more sustainable program:

*Shoreline is dedicated to protect and manage the vibrant urban forest to enhance its benefit to the environment and its contribution to the livability of the community today and for generations to come.*

**Benefit to the environment** refers to the ecological benefits of providing wildlife habitat and shade to fish-bearing creeks as well as performing as air & water pollution filters and mitigation of flooding and erosion.

**Livability of the community** pertains not only to the social and economic benefits the urban forest provides but also the importance to balance with other community values such as solar access, land use, view protection, and gardening.

## Identified Key Priorities

With the work with City staff, the Tree Board, and the feedback from the public, the identified key objectives for the Shoreline Urban Forest Strategic Plan were as follows:

1. Achieve climate-appropriate degree of tree cover, community-wide.
  - a. Currently mapped urban tree cover using satellite imagery and included in city-wide GIS.
2. Establish a tree population suitable for the urban environment and adapted to the regional environment.
3. Comprehensive inventory of the public tree resource to direct its management.
  - a. Detailed understanding of the condition and risk potential of all publicly-managed trees.
  - b. Urban forest renewal is ensured through a comprehensive tree establishment program driven by canopy cover, species diversity, and species/age distribution objectives.
  - c. All public trees are managed with safety as a high priority.
4. Develop and implement a comprehensive urban forest management plan for public property.
  - a. The ecological structure and function of all publicly-owned natural areas are protected and, where appropriate, enhanced.
  - b. Preservation and enhancement of local natural biodiversity, where appropriate.
5. Develop and maintain adequate funding to implement a city-wide urban forest management plan.
6. Employ and train adequate staff to implement city-wide urban forestry plan/program.
  - a. Ensure all city departments and other public agencies cooperate with common urban forestry goals and objectives.
7. At the neighborhood level, citizens understand and cooperate in urban forest management.
  - a. The general public understanding the role of the urban forest through education and participation. The urban forest is recognized as vital to Shoreline's environmental, social, and economic well-being.

## Shoreline's Urban Forestry Goals & Strategies

This section explains the criteria in the three categories of a sustainable urban forestry program, states Shoreline's goal for each, and offers some suggested strategies. The criteria with an asterisk (\*) are the identified priorities for the program, and therefore, have strategies that can be done in the near future to progress toward those goals.

## A. VEGETATIVE RESOURCE

The criteria in this category relate to the composition and condition of the urban forest. The performance indicators range in the level of diversity and known health of the trees across the community. These are generally used as performance benchmarks to assess the effectiveness of resource management and the community framework, the other categories. In general, the major strategies to achieve diversity and health goals are:

- For age diversity, planned regeneration and good management and preservation of the highly valued mature trees in the community.
- For species suitability and distribution, use of a diverse and appropriate species list for all community plantings.
- For a healthier and safer tree population, responsive management to address public hazards and optimize the urban forest's role in community benefits.

### 1. Canopy Cover\*

The two common ways to consider canopy cover is *average* cover and *relative* cover. As mentioned before, the average canopy cover for Shoreline is almost 31%, which is an acceptable amount of canopy to realize ecosystem benefits. The relative canopy cover refers to the amount of tree canopy cover compared to the amount of **available** planting space. Community forestry experts are realizing that this measurement is a better goal to focus on for resource measurement, especially if the average overall canopy cover is at a healthy level.

As stated in the UTC report (2011), planting spaces are areas where a tree can be planted, as in open ground available to plant. This can be in passive areas of parks, planting strips along streets, even landscape islands in parking lots. Technically, this can be anywhere where there is no impervious surface (roads, rooftops, etc.), but certain land uses, such as ball fields and golf courses would not be reasonable areas to include in the potential.

From the Urban Tree Canopy Assessment Project, they estimated the following percentages of existing and potential cover by area:

Total Acres of land in Shoreline – 7,412

Acres of existing tree canopy – 2,264 (30.6%); 2,126 in pervious space (28.7%)

Acres not suitable (buildings, roads, required impervious) – 2,960 (40%)

Acres w/potential for tree canopy (excluding ball fields, golf course fairways, etc.) – 1,853 (25%)

If adjusted for land use, the realistic available space (un-treed) is 1,853 acres. Combining that with the 2,126 acres of existing canopy, the total acreage of potential tree cover for the city is nearly 4,000 acres. Therefore, the existing tree canopy occupies over half of this space at 53%.

The different benchmarks along the spectrum offer levels of cover as a percentage of the potential planting space in the community. While it may seem logical to plant for tree cover in all possible planting spaces, the key objective is to achieve a climate-appropriate degree of tree cover. In hot, sunny climates, where shade of buildings and other impervious surfaces is extremely important, as well as stormwater abatement, the amount of appropriate cover may be very high. In the Pacific Northwest, tree canopy is one of several strategies used to mitigate stormwater. This ecological function must be balanced with the need for reasonable solar access and other landscaping needs (e.g. vegetable gardening).

*Shoreline's Goal: The existing tree cover equals to 50-75% of the available planting space to maximize the ecological benefits and allow for a diverse vegetative cover and landscapes. **Quantitatively, Shoreline is in this range. Develop strategies to maintain and enhance canopy cover on public property appropriately.***

Strategies –

- Restoration projects in the park and open space system that include trees in appropriate spaces.
- Updated Tree List with space requirements for mature size.

## **2. Age Distribution of Trees**

On a community level, the general measurement for age of trees is based on size. The larger the tree, the older it most likely is. The diameter classes referred to on the spectrum are size ranges in diameter to grossly categorize young, growing, mature, and over-mature trees in the community. Consideration of species' growth rate and mature size are factors to further determine how well the size ranges correlate with age of the population. Age diversity is key to avoiding mass age-related mortality and to ensure perpetual renewal of the urban forest.

*Shoreline's Goal: None of the size classes represents more than half of the public tree population.*

Strategies -

- Run reports on new street tree inventory to see the distribution of the size classes and species in the tree population and determine opportunities for best management practices to maintain age diversity.
- Develop a regeneration planting plan for the City based on areas needing new plantings.
- Identify any mature and/or rare tree species or historic groves in the community as a basis for a heritage tree program or special management program.

### **3. Species Suitability\***

Diversity of species and the appropriateness of those species in the area are important factors to consider for a healthy urban forest.

The good news about our region is that a huge variety of tree species can grow in our climate, but not all grow well. It's important that tree selection is based on how well the species grows in the area and has minimal maintenance issues, like drought tolerance and resistance to pests and disease. For instance, species from high elevations (ex. Colorado blue spruce, sub-alpine fir) don't do well in our coastal climate and quickly succumb to pests. Still others, like the katsura, do grow here but cannot thrive without ample irrigation.

Unfortunately, some native species also are not performing well. Our state tree, the Western hemlock, is rapidly dying off in the Puget Sound area, and our native dogwood and Pacific madrone are often victims to chronic foliar and canker diseases. Urban foresters are trying to anticipate the effects of climate change locally, and many of these health issues may be connected to this shift. Above all, the community strengthens the sustainability of its urban forest by using suitable species that flourish with a low degree of maintenance.

*Shoreline's Goal: More than 75% of the trees are of species considered suitable for the area.*

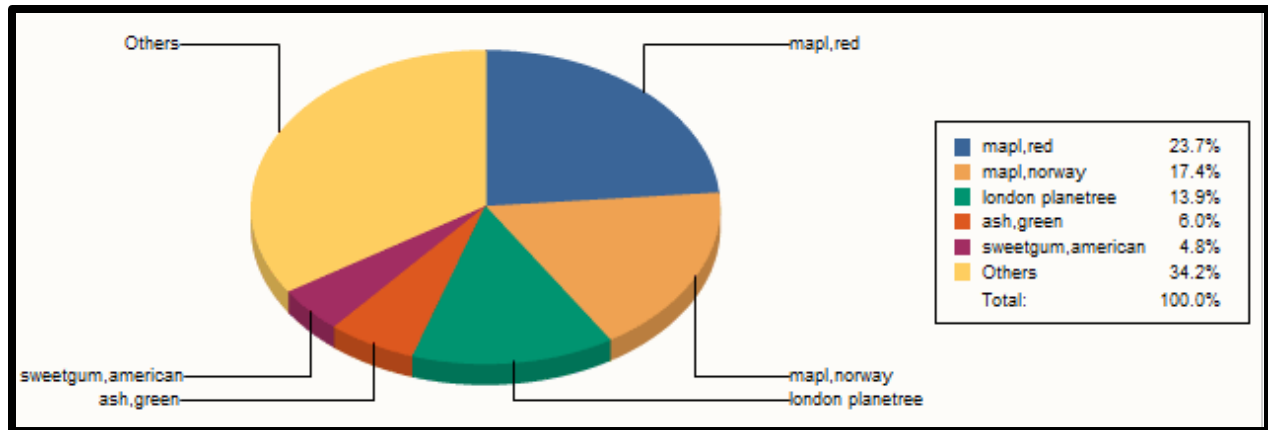
### **4. Species Distribution**

Diversity of the species in the population is equally critical. Too often, a small palette of trees is used in most landscape designs and in street improvements. The lack of diversity can create a situation in which a pest or disease can wipe out a significant portion of the population. The constant threat of pests and diseases heading our way cannot be ignored but rather can be alleviated through a diverse array of tree species in the community.



As stated in the Shoreline Street Tree Inventory Summary Report (2013), the ideal diversity goal is to avoid one species representing more than 10% of the population. To illustrate this, the species data from the recent inventory of 1,602 street trees show that maples represent 45% of the population inventoried, with red maple nearly a quarter of the population. The intent is to diversify the population in future plantings so that one species does not dominate the urban forest composition.





Species on Shoreline's 10 major corridors – collected in street tree inventory project, 2013.

This species diversity is best achieved by focusing on the opportunities in replacement and new planting efforts. This would be in regards to not only the street tree population but for public landscapes (parks, city properties) and required landscapes with commercial and multi-family residential development.

*Shoreline's Goal: No species represents more than 10% of the street and public landscape tree population.*

Strategies for species suitability and diversity -

- Updated Tree List - section for unimproved ROW, natural areas, open spaces and section for improved ROW – include detailed information on growth, space limitations, maintenance issues, and views.
- Enforce compliance with development to put right tree in right place.
- Use list for new plantings, not as an approved list for existing trees in the ROW, and recognize that listed species may not be appropriate in some circumstances (for example, where they interfere with infrastructure and views).

## 5. Condition of Publicly-Managed Trees

Understanding the condition of trees helps in prioritizing the management of the urban forest. Part of a tree inventory is rating the condition of a tree from excellent to very poor (or dead). Whether it is a sample plot inventory, such as in a park, or a complete tree inventory in the rights-of-way, assessing the condition of the trees will impact the decisions made about the City's maintenance work plan.

Along with condition, a necessary assessment of a tree is its risk of failure and likelihood to cause harm or damage. There is an industry rating system for such tree risk assessments that is commonly used as part of a tree inventory.

*Shoreline's Goal: A comprehensive tree inventory of publicly-owned trees that includes detailed tree condition and risk ratings.*

Supporting Resource Management Objectives:

1. Comprehensive inventory of the tree resource to direct its management.
2. Urban forest renewal is ensured through a comprehensive tree establishment program driven by canopy cover and population diversity.
3. All public trees are managed with safety as a high priority.

Strategies -

- Analyze new street tree inventory of the ten major corridors – develop a work plan addressing priority action.
- Develop a 'state of the street trees' report to identify subsequent strategies.
- Integrate inventory data into the new Asset Management System for future use.

## **6. Publicly-Owned Natural Areas**

The objective for this criterion is a detailed understanding of the ecological structure and function of all publicly-owned natural areas. Shoreline has documented the ecological benefits of some of its natural areas with vegetation studies (Hamlin Park, Boeing Creek, South Woods, etc.). Stewardship/management plans are developed from these studies in order to maximize the ecosystem benefits through restoration, conservation, and monitoring.

*Shoreline's Goal: The ecological structure and function of all publicly-owned natural areas are documented through an ecosystem analysis and included in the city-wide GIS.*

Strategies:

- Identify all public natural areas and establish a budget and timeline for performing an ecosystem analysis through vegetation studies.
- Develop management plans based on the assessments; implement; monitor.

## **7. Native Vegetation\***

The local, natural biodiversity found in the city needs to be preserved and enhanced to support native ecosystems. The appropriate publicly-managed places with the most potential are in open spaces, reserves, and passive parklands. The appropriate actions include restoration plantings and invasive species eradication. High use and developed areas have least potential for native vegetation success.

*Shoreline's Goal: Native species are specified where appropriate in publicly-managed areas; invasive species are aggressively eradicated.*

Strategies:

- Review all city projects for potential and appropriateness to use native species.
- Develop (or obtain) a detailed list of native species as a City and community resource.
- Support community efforts in invasive species eradication.



## **B. RESOURCE MANAGEMENT**

The criteria in resource management speak to the significant components of a city urban forestry program – staff, funding, resources, planning, policy, and operations.

### **1. Tree Inventory\***

As mentioned in the Vegetative Resource section, understanding the needs and composition of the urban forest requires comprehensive information about the tree resource to direct its management. Performing a tree inventory is the most common tool with which to collect important data such as species, size, condition, risk level, and location. Usually this is done along the rights-of-way and in landscaped park and other public areas. For forested open space, sample plots are taken to get a snapshot of the condition and composition of that sector of the urban forest. Capturing all these data in the City's GIS mapping is particularly useful to visualize the resource in relation to other aspects of the community.

*Shoreline's Goal: Comprehensive inventory of publicly-owned trees included in the city-wide GIS.*

Strategies:

- Utilize the new street tree inventory of the ten major corridors to develop a work plan and work orders.
- Ensure integration of data into the City's new Asset Management System.
- Review plant studies of the City's open space areas, conduct sample plot inventory work where needed, and incorporate data into GIS.

## **2. Canopy Cover Assessment**

Mapping the urban tree cover using satellite imagery is another way to analyze different characteristics of the urban forest. Canopy cover can be compared to impervious surface to determine the proportions, especially as it relates to stormwater mitigation. The amount of possible planting area for more tree canopy can also be obtained with this tool.

In 2011, Shoreline did receive data and an urban tree canopy assessment report that discussed these different aspects of the canopy cover. In fact, the relative canopy cover calculations used in the Vegetative Resource section were from that study. The key objective to this tool is to have high resolution assessments of the existing and potential canopy cover for the entire community.

*Shoreline's Goal: Mapped urban tree cover using aerial photographs or satellite imagery included in city-wide GIS. **Shoreline has achieved this goal. Strategies would include regular assessments performed to gauge progress toward canopy cover benchmarks.***

Strategies:

- Perform an urban tree canopy assessment every five years to document change in the urban forest community-wide.
- Utilize the urban forest map with i-Tree Eco to analyze ecosystem benefits of the City's forested open space/park areas.

## **3. City-wide Management Plan\***

A comprehensive urban forest management plan provides a specific road map for annual work and budget for public tree management that is aligned with the vision, mission, and goals of an urban forestry program. The strategies and priorities in this strategic plan are supported by the community and are a solid foundation for such a plan.

*Shoreline's Goal: Comprehensive plan for publicly-managed forest resources accepted and implemented.*

Strategies:

- Systematically develop an annual work plan with expected timelines, resource needs, and budget following priorities set by the community (through this plan or through adaptive management mechanisms).
- Establish performance measures for the urban forestry program to ensure actions and initiatives are aligned with priorities and goals.

## **4. Municipal-wide Funding\***

Without funding, a management program cannot be successful. These days, cities must be creative in developing and maintaining adequate funding to execute needed work identified in the management plan. In the Pacific Northwest, urban forestry can be linked effectively to stormwater

management for a city (Vancouver, WA), and therefore, funding could be garnered from other departments that have similar goals.

*Shoreline's Goal: Funding to provide for a measurable increase in urban forest benefits.*

Strategies:

- Demonstrate to City Council the value of the urban forest as an asset of the community to receive recognition as a viable city program.
- Quantify stormwater benefits to begin the funding conversation with City Surface Water and Environmental Services.
- Explore King Conservation District's jurisdictional grant program to fund stewardship projects.

## **5. City Staffing\***

Along with funding, staffing resource is just as critical for the success of an urban forestry program. The key objective is to employ and train adequate staff to implement the program and plan.

*Shoreline's Goal: Dedicated staff are certified and qualified with regular professional development.*

Strategy:

- Identify a framework and budget to establish dedicated funding and resources for a City urban forestry program.
- Consider key staff to enroll in the Community Tree Management Institute (CTMI).

## **6. Tree Establishment\***



Part of a resource management plan includes a planting or establishment program. Maintaining any resource requires renewal to ensure perpetuity and optimal benefits. The key objective is to ensure urban forest renewal through planning and implementation, and such a program is best driven by canopy cover, species diversity, and species distribution objectives.

*Shoreline's Goal: Tree establishment is directed by needs derived from a tree inventory and is sufficient to meet canopy cover objectives.*

Strategies:

- Develop a 'State of the Street Tree' report to identify subsequent strategies (including new trees).
- Review vegetation studies for recommended tasks/actions involving tree establishment; incorporate urban forest strategies.

## **7. Maintenance of publicly-owned, intensively managed trees**

Some trees require regular maintenance in order to survive in the urban setting. Trees in the Right-of-Way are the likely candidates for this level of management. The key objective is that these types of trees are maintained to maximize current and future benefits. Tree health and condition ensure maximum longevity.

*Shoreline's Goal: All publicly-owned, intensively managed trees are systematically maintained on a 5-7 year cycle, and immature trees are structurally pruned if needed.*

Strategies:

- Develop a work plan and budget to complete “standard” tasks identified in the street tree inventory.
- Consider launching a separate young tree pruning program for newer trees.

## **8. Tree Risk Management\***

Trees near people and structures have a certain level of risk to cause damage or injury. Assessing the level of risk involves evaluating the tree for defects that could increase its probability of failure and determining the size of the part likely to fail. Considering these factors with proximity to valuable targets, we can assess risks with the trees, and determine best ways to manage or minimize the risk. The key objective is that all publicly-managed trees near targets are managed with safety as a high priority.



*Shoreline's Goal: Tree risk management program is in place and includes inventory with detailed tree failure risk ratings and policy to reduce hazards within a maximum of one month from confirmation of hazard potential.*



Strategies:

- Perform tree risk assessment on appropriate trees in the ten major corridors and document their risk ratings.
- Establish a policy on tree risk assessment for ROW trees.
- Perform regular tree risk assessment on appropriate trees in parks, open space, and trails where there is a public presence.

## **9. Tree Protection Policy – Development and Enforcement**

Much of the urban forest resides on private property. The benefits derived from large and mature trees are tremendous, and the ability to have them safely retained community-wide is important. Municipal policies around tree protection, especially during development can be effective to that end, and must be consistently enforced.

*Shoreline's Goal: Integrated municipal-wide policies that ensure the protection of trees on public and private land are consistently enforced and supported by significant deterrents; education included in this process.*

Strategies:

- Strengthen the education component to the existing tree protection policy and process.
- Consider a volunteer based forest stewardship program with neighborhood stewards to talk with neighbors about their valuable trees.
- Assess the effectiveness of compliance to consider better incentives and enforcement.

## **10. Publicly-owned Natural Areas Management – Planning and Implementation\***

Properly managing the forested open space and natural areas of the community requires appropriate planning and implementation. A stewardship plan, which connotes a community engagement in the process, is developed to support action that protects and where needed, enhances the ecological structure and function of this part of the urban forest. These plans often include invasive eradication and urban forest renewal with appropriate native vegetation, along with community participation in the stewardship.

*Shoreline's Goal: A stewardship plan in effect for each public natural area focused on sustaining the ecological structure and function of the feature.*

Strategies:

- Review existing natural area vegetation studies for documented ecosystem benefits; consider using I-Tree Eco for further analysis.
- Review vegetation studies for recommended tasks/actions; incorporate urban forest strategies, such as sample inventory plots, as needed.
- Develop a stewardship plan framework to use for the natural areas.

## C. COMMUNITY FRAMEWORK

This category offers all aspects and possible community relationships that impact the sustainability of the urban forest. The criteria stress the importance of cooperation and deep understanding of the value of the urban forestry for a successful program.

### 1. Public Agency Cooperation\*

The key objective is to ensure all city departments cooperate with common goals and objectives around the proper management of the urban forest.

*Shoreline's Goal: Municipal policy implemented by formal interdepartmental/interagency teams on all municipal projects and activities.*

Strategies:

- Formalize City "Tree Team" with guidelines/policy for inter-departmental coordination.
- Continue to review annual tree work plan from Seattle City Light to anticipate interagency coordination and public awareness.

### 2. Involvement of Large Institutional Landholders

Large landholders in the community have a potential to impact the urban forest depending on how they manage their forested lands. Schools, golf clubs, college campuses, even exclusive communities need to embrace city-wide goals and objectives for the urban forest, and ideally develop resource management plans.

*Shoreline's Goal: Clear goals for tree resource by landholders; incentives for preservation of private trees.*

Strategies:

- Consider using the stewardship plan framework with large landholders, including Innis Arden community, to streamline approval (incentive) for tree removal and management of their reserves.
- Offer public education opportunities on the urban forest management through the schools and colleges and other community venues.

### **3. Green Industry Cooperation**

Nurseries, landscapers, and arborists have great influence on the public perception of proper tree selection and care. The key objective is the green industry operates with high professional standards and commits to city-wide goals and objectives.

*Shoreline's Goal: Specific cooperative arrangements with local nurseries and qualified tree care professionals.*

Strategies:

- Work with Sky Nursery (and other local nurseries) to promote City's updated tree list and proper tree care
- Work with Seattle City Light to promote purchase certificates for "Right Tree, Right Place."
- Consider a City vendor list of approved tree care companies for street tree work.

### **4. Neighborhood Action\***

The key objective is citizens understand and cooperate or participate in urban forest management, ideally at the neighborhood level. The most effective way to achieve this is to engage the neighborhood associations with the program through education, advocacy and active stewardship.

*Shoreline's Goal: City-wide coverage and interaction, particularly engagement of neighborhood associations with the urban forestry program.*

Strategies:

- Consider a Forest Stewardship training program modeled after Master Gardeners.
- Identify knowledgeable citizens in neighborhoods as "forest stewards" and support community projects.
- Partner with other stewardship programs (Audubon, Evergreen School, Thornton Creek Alliance, Dig Shoreline).



### **5. Citizen-Municipal-Business Interaction**

The key objective is all constituencies in the community interact for the benefit of the urban forest. With the advisory Tree Board, the City has a great venue for that interaction to evolve.

*Shoreline's Goal: Informal and general cooperation with focus to improve relationship with businesses.*

Strategies:

- Continue to support the PRCS Board as acting Tree Board – advisory and public outreach efforts.
- Identify with the Tree Board strategies to improve relationship with businesses.

## **6. General Awareness of Trees as a Community Resource\***

The most effective way to get the general public understanding the role of the urban forest is through education and participation. A successful outcome is public support of a City urban forestry program and City Council approval for adequate funding of a program.

*Shoreline's Goal: The urban forest is recognized as vital to Shoreline's environmental, social and economic well being.*

Strategies:



- Consider a Forest Stewardship training program modeled after Master Gardeners.
- Promote advocacy through the Tree Board.
- Expand the annual Arbor Day celebration for more public interaction.
- Expand urban forestry presence on City website with UF benefits, tree care information, and local resources.
- Consider developing a Heritage Tree Program to raise awareness of the significant trees in the community.

## **7. Regional Cooperation**

The effectiveness of a program can be enhanced when a city provides for cooperation and interaction among neighboring communities and regional groups.

*Shoreline's Goal: Communities share similar policy vehicles.*

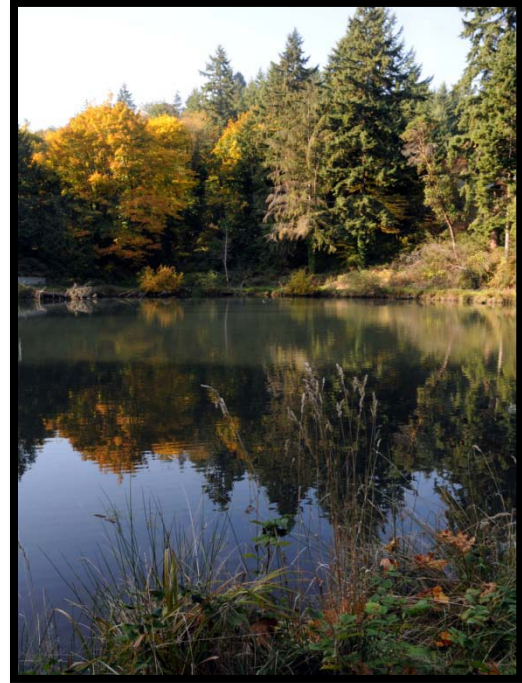
Strategies:

- Participate in the Puget Sound Urban Forestry group (meets quarterly) headed by WADNR program.
- Review Seattle's Strategic Plan and Forest Stewardship Plan for appropriate policy to adopt.

## Summary of Strategies

From the above strategies to work toward Shoreline’s goals for urban forestry, 28 strategic projects are identified in [Appendix D](#). A suggested timeline for each is shown, as well as the budget implications for the strategy.

The timing of strategies is dependent on many factors. Public support of a program that encompasses the importance and value of the urban forest is necessary for the City decision makers to invest the required funding and staff to implement. Once the appropriate resources are in place, many strategies could be tackled on a shorter timeline. As with any strategic plan, the priorities and actions can evolve, and subsequent work plans are often crafted to match the current reality of what can reasonably be accomplished. The beauty of the strategic plan is that it is just one set of navigation instructions to get from where you are to where you want to go. The City may find other ways to get to the same destination and can adjust the duration of the trip, so to speak.



## Next Steps – Initial Implementation

The relationship of the short-term strategies to the key priorities for Shoreline is shown in [Appendix E](#). They are considered low-hanging opportunities and/or cost-effective activities and are identified as critical to generate the necessary momentum for a sustainable urban forestry program for the Shoreline community. If the City has no capacity to take on these tasks, outside assistance may be needed to further analyze the needs and resources, develop a work plan and budget proposal, and provide a cost-benefit analysis for key initiatives.





## Conclusion

Shoreline is a community that has a passion around its urban forest. Realizing it is a valued asset that needs to be taken care of, the City needed direction on how to build a sustainable urban forestry program. Through a guided process considering all aspects and components of an initiative, City staff, the Shoreline Tree Board, and interested citizens developed a comprehensive set of goals for urban forestry. Of the key objectives, Shoreline identified these priorities to focus short-term strategies:

- Maintain climate-appropriate degree of tree cover community-wide
- Establish a diverse tree population suitable for the urban environment and adapted to the region
- Acquire a comprehensive understanding of the public tree resource to direct its management
- Implement a comprehensive urban forest management plan for public trees
- Develop and maintain adequate staff and funding to implement a city-wide urban forestry program
- Citizens understand and cooperate in urban forest management, recognizing the urban forest as vital to Shoreline's environmental, social, and economic well-being

With a clear vision of where the City wants to go, several strategies have been provided in this plan to develop the road map. Many are suggested as short-term tasks and relatively cost-effective in moving Shoreline toward a city urban forestry program. The success of the plan heavily relies on support of these strategies by both the City decision makers and the community. Adequate funding and resources committed to a program are critical to move forward to a more sustainable urban forest. In an effort to continue the momentum, the City is seeking ways to begin implementing a number of strategies and further develop a program and budget proposal as soon as possible.





# Appendix A

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## ***Urban Tree Benefits***

The benefits of urban trees, sometimes called “ecosystem services”, include environmental, economic, and social values. These are direct or indirect benefits provided by urban forests and individual trees that are often dismissed or underrepresented when valuing infrastructure because they don’t readily have an associated dollar value. Types of tree benefits are listed and briefly described below. While none alone are a “silver bullet”, when combined, trees and the collective urban forest are an impressive part of the solution for sustainability during urban planning and community development.

### **Environmental “Services” of Urban Trees:**

- ✿ Air Quality – trees absorb, trap, offset and hold air pollutants such as particulate matter, ozone, sulfur dioxide, carbon monoxide, and CO<sub>2</sub>.
- ✿ Greenhouse Gases (GHGs) and Carbon – trees store and sequester carbon through photosynthesis as well as offset carbon emissions at the plant due to energy conservation.
- ✿ Water Quality and Stormwater Runoff Mitigation – trees infiltrate, evapo-transpire, and intercept stormwater while also increasing soil permeability and ground water recharge.
- ✿ Erosion control – tree roots hold soil together along stream banks and steep slopes, stabilizing soils and reducing sedimentation issues in water bodies.
- ✿ Urban heat island effect – trees cool the air directly through shade and indirectly through transpiration, reducing day and nighttime temperatures in cities.
- ✿ Increased wildlife habitat – Trees create local ecosystems that provide habitat and food for birds and animals, increasing biodiversity in urban areas.

### **Economic “Services” of Urban Trees:**

- ✿ Property value – numerous studies across the country show that residential homes with healthy trees add property value (up to 15%).
- ✿ Energy conservation – trees lower energy demand through summer shade and winter wind block, additionally offsetting carbon emissions at the power plant.
- ✿ Retail and Economic Development – trees attract businesses, tourists, and increase shopping.
- ✿ Stormwater facilities – trees and forests reduce the need for or size of costly gray infrastructure.
- ✿ Pavement – tree shade increases pavement life through temperature regulation (40-60% in some studies).

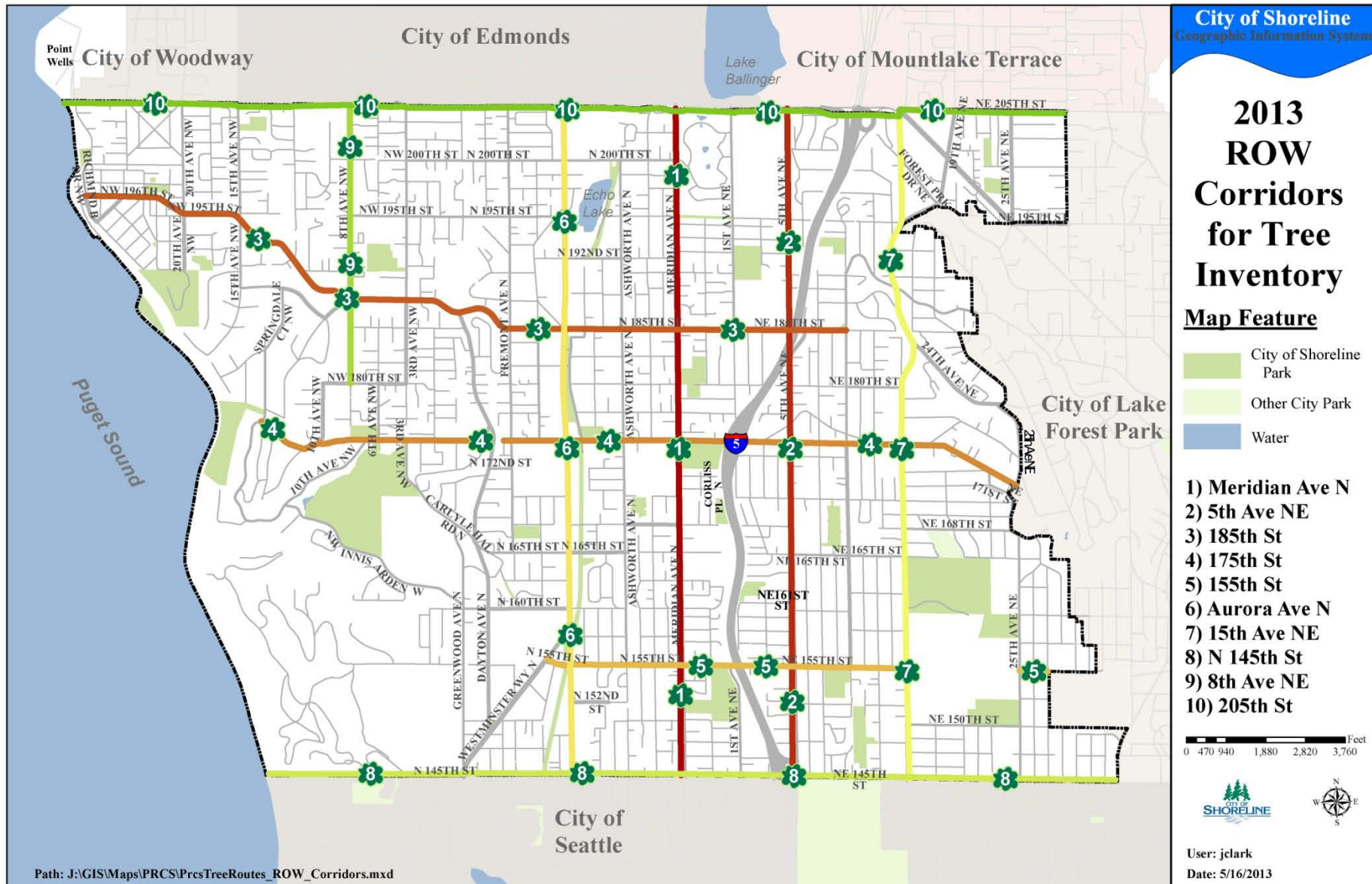
### **Social “Services” of Urban Trees:**

- ✿ Public health – trees help reduce asthma rates and other respiratory illnesses.
- ✿ Safe walking environments – trees reduce traffic speeds and soften harsh urban landscapes.
- ✿ Crime and domestic violence – urban forests help build stronger communities. Places with nature and trees provide settings in which relationships grow stronger and violence is reduced.
- ✿ Connection to nature – trees increase our connection to nature.
- ✿ Noise pollution – Trees reduce noise pollution by acting as a buffer and absorbing up to 50% of urban noise (U.S. Department of Energy study).

From: Benefits of Trees and Urban Forests: A Research List

[http://www.actrees.org/files/Research/benefits\\_of\\_trees.pdf](http://www.actrees.org/files/Research/benefits_of_trees.pdf), Published August 2011

## Appendix B



# APPENDIX C



## Urban Forest Strategic Plan

### Vegetative Resource Criteria and Indicators

Green = Desired Level

Orange = Top Objective

Criteria	Performance Indicator Spectrum				Key Objective	
	Low	Moderate	Good	Optimal		
<b>1. Relative Canopy Cover</b>	The existing canopy cover equals 0-25% of the <u>potential</u> - available planting space.	The existing canopy cover equals 25-50% of the potential.	The existing canopy cover equals 50-75% of the potential.	The existing canopy cover equals 75-100% of the potential.	Achieve climate-appropriate degree of tree cover, community-wide	* C
<b>2. Age distribution of trees in the community</b>	Any diameter class (size range equating to age) represents more than 75% of the tree population.	Any diameter class represents between 50% and 75% of the tree population.	No diameter class represents more than 50% of the tree population.	25% of the tree population is in each of four diameter classes.	Provide for uneven-aged distribution city-wide as well as at the neighborhood level.	
<b>3. Species suitability</b>	Less than 50% of trees are of species considered suitable for the area.	50% to 75% of trees are of species considered suitable for the area.	More than 75% of trees are of species considered suitable for the area.	All trees are of species considered suitable for the area.	Establish a tree population suitable for the urban environment and adapted to the regional environment.	*
<b>4. Species distribution</b>	Fewer than 5 species dominate the entire tree population city-wide.	No species represents more than 20% of the entire tree population city-wide.	No species represents more than 10% of the <b>street tree</b> population.	No species represents more than 10% of the entire tree population at the neighbourhood level.	Establish a genetically diverse tree population city-wide as well as at the neighborhood level.	
<b>5. Condition of Publicly-managed Trees (including ROW trees)</b>	No tree maintenance or risk assessment. Request based/reactive system. The condition of the urban forest is unknown	Sample-based inventory indicating tree condition and risk level is in place.	Complete tree inventory which includes detailed tree condition ratings.	Complete tree inventory which includes detailed tree condition and risk ratings.	Detailed understanding of the condition and risk potential of all publicly-managed trees	*

## APPENDIX C

### 6. Publicly-owned natural areas (e.g. woodlands, sensitive areas, etc.)

No information about publicly-owned natural areas.	Publicly-owned natural areas identified in a “natural areas survey” or similar document [PROS plan].	The level and type of public use in publicly-owned natural areas is documented	The ecological structure and function of all publicly-owned natural areas are documented through an Ecosystem Analysis and included in the city-wide GIS	Detailed understanding of the ecological structure and function of all publicly-owned natural areas.	
No program of integration	Voluntary use of native species on publicly and privately-owned lands; invasive species are recognized.	The use of native species is encouraged on a project-appropriate basis in actively managed areas; invasive species are recognized and discouraged; some planned eradication.	Native species are specified where appropriate in publicly managed areas; invasive species are aggressively eradicated.	Preservation and enhancement of local natural biodiversity, where appropriate.	*

### 7. Native vegetation

# APPENDIX C



## Urban Forest Strategic Plan Resource Management Criteria and Indicators

Green = Desired Level

Orange = Top Objective

Criteria	Performance Indicator Spectrum				Key Objective	
	Low	Moderate	Good	Optimal		
<b>1. Tree Inventory</b>	No inventory	Complete or sample-based inventory of publicly-owned trees	Complete inventory of publicly-owned trees AND sample-based inventory of privately-owned trees.	Complete inventory of publicly-owned trees [AND sample-based inventory of privately-owned trees ] included in city-wide GIS	Comprehensive inventory of the tree resource to direct its management. This includes: age distribution, species mix, tree condition, risk assessment.	*
<b>2. Canopy Cover Assessment</b>	No inventory	Visual assessment	Sampling of tree cover using aerial photographs or satellite imagery; I-Tree;	Mapped urban tree cover using aerial photographs or satellite imagery included in city-wide GIS	High resolution assessments of the existing and potential canopy cover for the entire community.	C
<b>3. City-wide management plan</b>	No plan	Existing plan limited in scope and implementation	Comprehensive plan for publicly-managed forest resources accepted and implemented	Strategic multi-tiered plan for public and privately-managed forest resources accepted and implemented with adaptive management mechanisms.	Develop and implement a comprehensive urban forest management plan for public property.	*
<b>4. Municipality-wide funding</b>	Funding for only emergency reactive management	Funding for some proactive management to improve the public portion of urban forest.	Funding to provide for a measurable increase in urban forest benefits.	Adequate private and public funding to sustain maximum urban forest benefits.	Develop and maintain adequate funding to implement a city-wide urban forest management plan	*

## APPENDIX C

<b>5. City staffing</b>	No staff.	Limited trained or certified staff.	Certified arborists and professional foresters on staff with regular professional development.	Multi-disciplinary team within an urban forestry program.	Employ and train adequate staff to implement city-wide urban forestry plan	*
<b>6. Tree establishment, planning and implementation</b>	Tree establishment is ad hoc (no plan or budget)	Limited tree establishment occurs on an annual basis with minimal budget.	Tree establishment is directed by needs derived from a tree inventory or strategy	Tree establishment is directed by needs derived from a tree inventory and is sufficient to meet canopy cover objectives (see Canopy Cover criterion in Table 1)	Urban Forest renewal is ensured through a comprehensive tree establishment program driven by canopy cover, species diversity, and species distribution objectives	*
<b>7. Maintenance of publicly-owned, intensively managed trees (not open space)</b>	No maintenance of publicly-owned trees	Publicly-owned trees are maintained on a request/reactive basis. No systematic (block) pruning.	All publicly-owned trees are systematically maintained on a cycle longer than five years; <i>all immature trees are structurally pruned.</i>	All mature publicly-owned trees are maintained on a 5-year cycle. All immature trees are structurally pruned.	All publicly-owned, intensively managed trees are maintained to maximize current and future benefits. Tree health and condition ensure maximum longevity.	
<b>8. Tree Risk Management</b>	No tree risk assessment/remediation program. The condition of the urban forest is unknown	Sample-based tree inventory which includes general tree risk information; Request based/reactive risk abatement system.	Complete tree inventory which includes detailed tree failure risk ratings; risk abatement program is in effect <i>reducing</i> hazards within a maximum of one month from confirmation of hazard potential.	Complete tree inventory which includes detailed tree failure risk ratings; risk abatement program is in effect eliminating hazards within a maximum of one week from confirmation of hazard potential.	All publicly-owned trees are managed with safety as a high priority.	*



## APPENDIX C

<b>9. Tree Protection Policy Development and Enforcement</b>	No tree protection policy	Policies in place to protect public trees.	Policies in place to protect public and private trees with enforcement desired.	Integrated municipal wide policies that ensure the protection of trees on public and private land are consistently enforced and supported by significant deterrents; <i>education component included in process</i>	The benefits derived from large-stature/mature trees are ensured by the enforcement of municipal wide policies.	
<b>10. Publicly-owned natural areas management planning and implementation</b>	No stewardship plans or implementation in effect.	Reactionary stewardship in effect to facilitate public use (e.g. hazard abatement, trail maintenance, etc.)	Stewardship plan in effect for each publicly-owned natural area to facilitate public use (e.g. hazard abatement, trail maintenance, etc.)	Stewardship plan in effect for each publicly-owned natural area focused on sustaining the ecological structure and function of the feature.	The ecological structure and function of all publicly-owned natural areas are protected and, where appropriate, enhanced.	*

# APPENDIX C

Green = Desired Level

Orange = Top Objective

Criteria	Performance Indicator Spectrum				Key Objective	
	Low	Moderate	Good	Optimal		
<b>1. Public agency cooperation (inter-departmental and with utilities)</b>	No communication or conflicting goals among departments and or agencies.	Common goals but no coordination or cooperation among departments and/or agencies.	Informal teams among departments and or agencies are functioning and implementing common goals on a project-specific basis.	Municipal policy implemented by formal interdepartmental/interagency teams on ALL municipal projects.	Ensure all city department cooperate with common goals and objectives	*
<b>2. Involvement of large institutional land holders (ex. hospitals, campuses, utility corridors)</b>	No awareness of issues	Educational materials and advice available to landholders.	Clear goals for tree resource by landholders. Incentives for preservation of private trees.	Landholders develop comprehensive tree management plans (including funding).	Large private landholders embrace city-wide goals and objectives through specific resource management plans.	
<b>3. Green industry cooperation</b>	No cooperation among segments of the green industry (nurseries, tree care companies, etc.) No adherence to industry standards.	General cooperation among nurseries, tree care companies, etc.	Specific cooperative arrangements such as purchase certificates for "right tree in the right place"	Shared vision and goals including the use of professional standards.	The green industry operates with high professional standards and commits to city-wide goals and objectives.	
<b>4. Neighborhood action</b>	No action	Neighborhood associations/HOA's exist but are minimally engaged or a limited number are engaged.	City-wide coverage and interaction; <i>Neighborhood associations are engaged with the program (education, advocacy, stewardship)</i>	All neighborhoods/HOA's organized and cooperating.	At the neighborhood level, citizens understand and cooperate in urban forest management.	*

## APPENDIX C

<b>5. Citizen-municipality-business interaction</b>	Conflicting goals among constituencies	No interaction among constituencies.	Informal and/or general cooperation <i>with focus to improve relationship with businesses.</i>	Formal interaction e.g. Tree board with staff coordination.	All constituencies in the community interact for the benefit of the urban forest.	
<b>6. General awareness of trees as a community resource</b>	Trees not seen as an asset, a drain on budgets.	Trees seen as important to the community.	Trees acknowledged as providing environmental, social and economic services.	Urban forest recognized as vital to Shoreline's environmental, social and economic well-being.	The general public understanding the role of the urban forest <i>through education and participation</i>	*
<b>7. Regional cooperation</b>	Communities independent.	Communities share similar policy vehicles.	Regional planning is in effect	Regional planning, coordination and /or management plans	Provide for cooperation and interaction among neighboring communities and regional groups.	

## APPENDIX D: Shoreline Strategies with Timeline & Budget

	STRATEGY	SHORT 1-5 YRS	MID 6-10 YRS	LONG >10 YRS	BUDGET
1	Update Street Tree List	√			\$
2	Establish policy for street tree management	√			\$
3	Develop work plan from street tree inventory	√			\$\$
4	Young street tree pruning project	√			\$
5	Integrate inventory into new Asset Management System	√			\$
6	Framework & budget for a city program	√			\$\$-\$\$\$
7	Conversation with Surface Water Environmental Services for program funding	√			\$
8	Staff to CTMI training	√			\$
9	Formalize City Tree Team – intercity, interagency communication, coordination	√			\$
10	Expand Arbor Day celebration – public awareness	√			\$-\$\$
11	Identify public planting space with GIS/UTC assessment	√			\$
12	Stewardship/regeneration plans from existing plant studies and GIS	√	√		\$-\$\$
13	Stewardship plan framework with landholders and managers	√	√		\$
14	Develop tree risk management program for street trees and parks	√	√		\$-\$\$
15	Strengthen education component for tree protection and care	√	√		\$
16	Support community invasive species removal efforts	√	√		\$-\$\$
17	Review city projects for native species use	√	√	√	\$
18	Annual program work plan using strategic plan (include performance measures)	√	√	√	\$
19	Partner with other stewardship programs	√	√	√	\$
20	Ecosystem Analysis of city open space		√		\$-\$\$
21	Urban Tree Canopy Assessment update		√		\$
22	Forest Stewardship training & volunteer program		√		\$\$
23	Analyze inventory – increase diversity		√		\$
24	Improve compliance – right tree, right place, incentives, enforcement		√		\$\$
25	Work with local nurseries, utilities to promote right tree, right place		√		\$
26	Interact with regional cities		√		\$
27	Heritage Tree Program		√	√	\$-\$\$
28	List of approved tree care companies for street tree work		√	√	\$

\$ = \$1-5k; \$\$ = \$5-15k; \$\$\$ = at least \$25k

## **APPENDIX E**

### **Shoreline's Initial Strategies for Key Priorities**

#### **1. Canopy Cover**

- Identify appropriate potential planting space on public property through I-Tree/GIS analysis using Urban Tree Canopy Assessment (2011) base

#### **2. Species Suitability**

- Update ROW Tree Species List (improved and unimproved ROW categories) and include detailed information for proper selection
- Review city projects for native species use

#### **3. Tree Inventory**

- Develop a work plan from inventory addressing priority action
- Coordinate the integration of inventory data into new Asset Management system
- Implement a young street tree pruning project

#### **4. City-wide Management Plan**

- Develop stewardship/regeneration plans from existing open space/park plant studies
- Develop policy for ROW trees - removal, replacement, proper pruning, etc.
- Develop a tree risk management program for street trees and parks

#### **5. City Funding**

- Develop framework and budget for a city program
- Annual program work plan using strategic plan (with performance measures)
- Conversation with Surface Water & Environmental Services for program funding
- Explore King Conservation District's jurisdictional grant program for stewardship projects

#### **6. City Staffing**

- Formalize City 'Tree Team' with guidelines/policy for inter-departmental and inter-agency coordination
- Staff to Community Tree Management Institute (CTMI) training

#### **7. Neighborhood Action/Increased Awareness**

- Partner with other stewardship programs
- Support community invasive species removal efforts
- Expand Arbor Day event to increase public awareness
- Cost/benefit analysis of a Shoreline Urban Forest Steward Program

## APPENDIX F

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Shoreline, WA Urban Tree Canopy Assessment. 2011. AMEC.



# Appendix G

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## Urban Forest Strategic Plan Open House Feedback *January 23, 2014*

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### *Vegetative Resource Sticky Note Comments*

#1 & Low: Reduce impervious surface to increase potential %

#1 & Good: Potential? What does that mean?

#1 & Key Objective: Primarily evergreen natives to maximize canopy volume and benefits

#1 general comment: We need goals to reduce impervious surfaces so we can plant more trees

#3 & Key Objective:

- Use largest possible species at every planting location to maximize benefits/costs
- What does “suitable” mean?
- Who determines what is suitable? What is suitable?

#4 & Optimal:

- This would justify removal of thousands of mature natives!
- 10% is unnatural for NW forest. More Doug Fir and Alder. Use natural diversities.

#4 & Key Objective: Maybe no more than 10% (or less) of a non-native species, but if specific natives are more than 10%, that’s fine.

#5 & Key Objective:

- What are risk ratings?
- Risk for what? People are overly afraid of trees. What is the risk of climate change, etc. if trees are cut?
- Native/PNW species. Focus on evergreens.

#6 & Optimal: All trees including privately owned provide public benefit and should be assessed at some level.

### *General Comments on Vegetative Resource Flip Chart Paper:*

- This makes no sense!
- Reduce impervious surface to increase planting potential
- Utilize trees to mitigate stormwater
- Use creative permitting to reduce random cutting
- Enforce tree permits
- 10% is way too small a percentage for the native NW Puget Sound lowland ecosystem for native trees such as Doug Fir, Western Red Cedar, Alder, Vine Maple
- Native trees are largely disease resistant

## Appendix G

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- Birds, pollinators taken into consideration—no spraying of chemical pesticides
- Along with the trees, under plant with groundcovers, shrubs to cut down on grass and to attract wildlife (salal, huckleberries, strawberries, etc. Sturdy natives that are drought resistant).
- Arbitrary percentages for specific trees not realistic or compatible with regional ecosystem. The total overall ecosystem is as important as any specific tree species.
- When planning and permitting large developments, give developers breaks for saving existing trees.

### *Resource Management Criteria and Indicators Sticky Note Comments*

#1 & Key Objective: Priority given to PNW natives

#2 & Optimal: This was inadequate! See other comments sent to City on this subject.

#3 & Good: What does extensively managed mean?

#4 & Optimal: Volunteers would help lower funding costs-many trained and knowledgeable people in community

#5 & Key Objective: More use of trained volunteers

#7 & Optimal: What is maintenance?

### *General Comments on Resource Management Flipchart Paper:*

- Consider value of trees as investment to prevent stormwater runoff
- Allocate 100% of higher budget for tree management
- Invest in tree infrastructure
- Plant natives at a 100% higher rate
- Maximize canopy volume
- Invest in invasive weed removal program
- Employ EarthCorps and interested residents to plant more trees and remove invasives!
- We need an enthusiastic receptive support program for volunteers
- Triple bottom line accounting to give preserving tree canopy full potential

### *Community Framework Criteria and Indicators Sticky Note Comments*

(According to the cross-section where the notes were placed)

#3 & Good: What are “purchase certificates?”

#6 and Top Objective: The public’s understanding of the role of an urban forest is enhanced/improved/increased (you choose the verb) through education and participation.

### *General Comments on Community Framework Flipchart Paper*

- Trees are inventoried and added to the City’s balance sheet with dollared values
- Does neighborhood cooperation include hands-on volunteerism?
- Tree list should include all existing species except invasives
- Goal of canopy of 40%
- Stewardship should be actively managing trees

## Appendix G

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- Need a city resource to assist “Neighborhood Action”
- All municipal projects? Define.
- How about a Heritage Tree program?
- Heritage Tree program that recognizes historic value
- Need to recognize “groves of trees” as a category and “rare species” as special
- When trees are cut, where goes the lumber?
- I second that question. Elaine Dolan

### *Vision Statement Comments and Suggestions*

- Enhance its benefit to local wildlife and the environment
- Increase the canopy, preserve the existing, increase understory plantings for birds and pollinators.
- The Vision Statement should state the goal to increase forest canopy and increase the health of the number of native species, both flora and fauna
- Shoreline is a community in which the environmental, public health, economic and social benefits of a healthy urban forest ecosystem are recognized, protected, and enhanced through a comprehensive urban forestry program. Most of the City’s vision statements are too verbose and too convoluted to ever make a mark in anyone’s mind. The key word is “vision.” A comprehensive summary of all the goals of the program isn’t needed or desirable in a vision statement. Those would be better listed after a more direct and shorter vision statement.
- Vision Statement: The City of Shoreline is a community nestled among its beautiful, bird-filled trees. Mission: Shoreline is committed to using the best science available to protect and manage the urban forest as pivotal component of the natural eco-systems within the city and in recognition of its historic, economic, environmental, social and aesthetic importance.”
- Shoreline is committed to honor and care for its vibrant urban forest through stewardship

### *Street Tree List Sticky Note Comments*

#### *Large Tree List Sticky Note Comments*

- All existing tree species should be included and protected
- Native conifers grow to 300ft. The “large” tree list is medium-not large at all
- Use Lake Forest Park List –more comprehensive-includes native species-more useful information
- Where are our native species? Why aren’t they on these lists?
- All existing trees 8” or larger should be protected
- More native trees, please include understory plantings (shrubs, native flowers for pollinators and birds)
- Rein in the over zealous “pruning” done by the utility crews. Put more utilities underground.
- Require more tree planting + tree preservation for parking lots

#### *Medium Tree List Sticky Note Comments*

- Add wide array of native trees to list
- Majestic (sz large) trees, please! Japanese Katsuras, Cedars, Maples?
- Raywood Ash (red in the autumn) Frescia Locusts (yellow-green) dappled shade Please no street trees over 45 feet tall and Tall trees are good!

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### *Right Tree/Right Place, Wrong Tree/Wrong Place and Unimproved ROW Sticky Note Comments*

- Pollinator pathway could be easily incorporated – native plants – drought resistant
- This summer expect drought. These trees will be dry. Who will water?
- ugly
- Disagree that this is ugly
- Try to use less grass – and more ground covers that are drought tolerant and native
- Fix the sidewalk. Cut roots not trees.
- Cutting roots is cutting trees!
- Unimproved ROW is valuable habitat
- Unimproved ROW is excellent habitat – also preserve snags!
- Trees over 30” diameter must have permits to be cut

### *General Comments on Street Tree Flipchart Paper*

- Illegal tree cutting to be reported anonymously to tree response team responsible for tree ordinances
- All public trees should be planted to maximize canopy volume and functional benefits for the space available
- The replacement/planting list (not street) should include all native species to assure they are protected.

### *Other Items*

- “Conifers” should be “evergreen” in order to cover madrones
- Environmentally critical? What about the 2 Redwoods by Hamlin Park?
- When will tree inventory be in new database? Will it include historic removals/plantings?
- A low cost tree permit/filing on tree removals from private property—all trees provide public benefit
- Educate the “trimmers” about how to not top or weaken trees
- Private tree owners should list planned removals in a public space (online) prior to removal
- Where do the “removal” fines from City Light Topping/Removal show up in the budget? Does it have a discrete account?
- Education on invasives (increase info to public). Perhaps help to landowners for removal plus more removal on public land.

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### Urban Forest Strategic Plan Public Comment Jan 23 – Feb 7, 2014 Comment Form Responses

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#### **1. Do you have comments or suggestions about the draft Vision Statement?**

1. No response.
2. Please clean up this statement by correcting the grammar, eliminating redundancy, and providing better focus. Here is a suggestion: Shoreline is dedicated to the protection and effective management of its publicly owned urban trees, in a manner agreeable and equitable to its citizens, so as to enhance the livability and environment of the community today, and for future generations.
3. No response.
4. No response.
5. Any plan/legislation must include an express acknowledgement that, where urban forestation policies/requirements would conflict with private covenants, the covenants will control. Any increase desired in urban canopy arguably should occur on City's property such as parks.
6. No response.
7. Citizens of the City should be able to enjoy the sunshine as well and therefore an enhanced urban forest does not necessarily benefit the livability of the community.
8. No response.
9. Yes. See response for Question #6.
10. The current draft statement is too vague and does not inspire anything. It also should be split into separate vision and mission statements. The vision statement should illustrate what we are striving for and the mission statement should be about what we plan to do to achieve the vision. Here are some a vision and mission statement written by a Shoreline resident that I think are excellent and I can think of no way to improve: Urban Forest Vision Statement: "The City of Shoreline epitomizes the ideal of forest stewardship with a well maintained, vigorous, diverse and sustainable urban forest emphasizing native trees accented with locally appropriate non-natives to create a resilient forest that provides the greatest canopy cover, enhanced livability, and environmental benefits as part of the network of natural systems within the city for the benefit and pleasure of all." Urban Forest Mission Statement: "Shoreline is committed to using the best science available to protect and manage the urban forest as pivotal component of the natural eco-systems within the city and in recognition of its historic, economic, environmental, social and aesthetic importance."
11. No response.
12. No response.

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**2. Do you have any comments about the draft (green) Desired Levels and (orange) Top Key Objectives for the Vegetative Resource Category? Please indicate what you would like the City to consider.**

1. No response.
2. The terms are not clear here. For example, what is meant by 'potential available planting space'? I also see no mention, anywhere, relating to private property rights. Nor do I understand where these figures and percentages came from. I will not comment on each item as much of this is clearly biased towards an absurdly and inappropriately high tree density in an urban area.
3. No response.
4. No response.
5. The “Urban Forest Strategy Plan” should not increase the regulatory burden on private property owners, particularly if it is part of a strategy to up the percentage of urban forest canopy from that which has historically existed in the City. The City cannot enlist homeowners in a crusade to re-forest the City when current homes and developments were sited, permitted, and constructed under different rules. “Urban forestation” must be balanced with maintenance of public and private improvements such as sidewalks, driveways, landscaping, etc.
6. No response.
7. A canopy cover of 50-75% is ridiculous and over-reaching.
8. No response.
9. No response.
10. Generally the key objectives make sense, and are a good starting point. I do think Criteria #4 is confusing. The category is important and the key objective is understandable, but the desired and optimal levels need to be clarified. If no species is more than 10%, and we currently have 5 species dominate, then are we hoping to have just 10 species dominate? Also re Criteria #5: Does this include a work plan at the end? I tried to find a place to make comments at the event (unsuccessfully) on some specific street trees (conifers on 15th NE) that should be removed because they've been completely tortured over the years from pruning for power lines. It wasn't known if or when those trees might be put out of their misery and replaced with something more appropriate.
11. No response.
12. The critical issue ignored here is how much of the city is covered with impervious surface. The goal should be what percentage of the whole land mass is covered with trees + forest, not what percentage of the “potential”. The board could also consider making a regulation of what percentage that a residential lot must be covered with trees – allowing homeowners to decide whether they wanted their non-tree area to be house + driveway or rose garden + corn plants.
  - Comment about: 1. Relative Canopy Cover – A different question should be asked.
  - Comment about: 2. Species suitability Good Indicator “No diameter class represents more than 50% of the tree population.



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- Comment about: 3. Species suitability – What determines “suitable”?? I would not cut “unsuitable” trees unless they are invasive exotics and then only maybe. We should encourage a move toward older trees. It would be fantastic if Shoreline was dominated by ancient forest groves’. I would not advocate a policy that would cut trees just because they’re the “wrong” age. There is no such thing as an “over-mature” forest. If a 1000 yr old conifer dies, it becomes a snag or nurse log – very vital to the native forest.
- Comment about: 4. Species Distribution: We should not plant trees so that no single species represents more than 10% of the planted trees. Native species might very well be naturally more than 10%. Certainly no living tree should be cut down just because it represents more than 10%, unless perhaps if it is an invasive exotic.
- Comment about: 5. Condition of Publicly-managed trees Optimal Level: Risk for what? See below.
- Comment about: 6. Publicly-owned natural areas Optimal Level: Good.
- Comment about: 7. Native Vegetation Optimal Level: It depends how they are eradicated – pulling?? Poisoning??

**3. Do you have any comments about the draft (green) Desired Levels (goals) and (orange) Top Key Objectives for the Resource Management Category? Please indicate what you would like the City to consider.**

1. No response.
2. Consider the rights of residents who want open spaces, gardens (and sunlight for them), lowered maintenance costs by NOT having towering Doug Firs over their roofs, power line issues, etc.
3. No response.
4. No response.
5. Tree species for street rights of way must be limited to 40-feet, maximum height to accommodate utilities and to respect neighboring properties’ rights including pursuant to private covenants.
6. No response.
7. The City should require any property owner to immediately remove a dead or diseased tree for the health and well-being of the community.
8. Please consider the following:
  1. In the area of Tree Risk Management and hazardous trees, please provide for removal of unhealthy trees on both public and private property. Under the current UFSP, the idea of increasing canopy while inhibiting hazard tree removal seems to increase the risk to public health and safety.
  2. The policy should encourage residents and businesses to increase canopy, but not require them to do so. In addition, any measure to increase canopy should focus on areas where the canopy is currently below the historic City average - i.e. commercial properties which contribute more to storm water than residential neighborhoods.
  3. The plan must specifically recognize the benefits of solar access for energy. The plan should state that urban forestation cannot rule over residents' right to solar access.

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9. No response.

10. No response.

11. No response.

12. Risk of what? I'm more concerned about trees that seem stressed by drought or disease than ones leaning. I would be interested in age + size + species inventory – measuring DBH and perhaps making biomass calculations.

Comment about: 1. Tree Inventory Optimal Level: Good.

Comment about 2: Canopy Cover Assessment Optimal Level: For both summer + winter inventories.

Comment about: 3. City-wide management plan Good Level - It depends what form the “management” takes. Nature often does a better job of “managing” than humans – i.e. an old growth forest is much healthier than a forest service or Weyerhaeuser tree plantation.

Comment about: 4. Municipality-wide funding Key Objective - Circled Key Objective – More funding is key – should be a high priority.

Comment about: 5. City Staffing Good Level - Good. Hire ecologists, biologists instead of timber industry trained + focused “foresters”. Certified arborists should hopefully be members of the Plant Amnesty, and have a demonstrated record of upholding those values.

- Comment about: 8. Tree Risk Management Good Level - Don't agree with arrow pointing to confirmation of.
- Comment about: 8. Tree Risk Management Key Objective – Trees are inherently “risky”. Risk from what? To whom? I am not afraid of trees. I am afraid of mass species extinction + global destabilization of climate. “risk” is often used just to cut trees down. So “safety” is not necessarily a priority.
- Comment about: 9. Tree protection policy development and enforcement Optimal Level - Yes agree with arrow pointing to included in process.
- Comment about: 10. Publicly-owned natural areas management Optimal Level and Key Objective – good.

**4. Do you have any comments about the draft (green) Desired Levels (goals) and (orange) Top Key Objectives for the Community Framework Category? Please indicate what you would like the City to consider.**

1. The city is being too aggressive with these goals particularly criteria 3-6. The city has failed to work with Innis Arden and recognized the private property values, rights and enjoyment attached to neighborhoods sound and mountain views. The existence of preceding legal status of covenanted communities and the enforceability of their covenants. The city must recognize these property rights and avoid costly legal action which will certainly arise if the city tries to place the burden of growing the urban tree canopy on privately held property.

2. No response.

3. No response.

4. No response.

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5. Residents and businesses may be encouraged to increase canopy on private property – but cannot be required to do so. Further, any measures to increase canopy should first address neighborhoods and communities where the canopy is currently below the historic City average. It should start with commercial and business districts and properties which contribute as much or more to storm water and carbon problems as residential neighborhoods do.
6. No response.
7. The City does not have the funds for more management of private property.
8. Please consider the following:
  1. The Plan must specifically acknowledge that when urban forestation policies conflict with private covenants, the covenants will prevail.
  2. The UFSP should not impact or burden private property owners in the City of Shoreline. Many current homes were permitted and constructed under different rules, and private homeowners should not be required to comply with a new strategy to increase the urban forest.
9. No response.
10. No response.
11. No response.
12. Comment about: 1. Public agency cooperation Optimal Level – good.  
Comment about 2. Involvement of large institutions Good Level and Key Objective – good. City should help landowners develop strategies especially for those landowners who desire it. A property owner might want to enhance the urban forest but need advice or tools etc. to do it. And also restrictions on destruction of trees, with consequences + enforcement – not just incentives. Comment about: 6.  
General awareness of trees as a community resource Optimal Level – yes.

### **5. Do you have comments on the City's Street Tree List?**

1. Shoreline's city street trees should be kept under 40' tall preferably 30' and not interfere with solar access, public utilities, sidewalks, pedestrian amenities and non-view obstructing for drivers and residential neighborhoods.
2. There is mention, in the 'mission statement', of putting plan in place for 'future generations'. Why allow large, dangerous trees - native or otherwise - under or near power lines or houses? There is NO PLACE for 100-200' ft tall Douglas Firs, Western Red Cedar, (California Naive Giant Sequoia), etc near houses, roads, power lines, etc., especially for future generations, which will bear the brunt of the damage, injuries, deaths, higher insurance costs and so on caused by inappropriate tree choices.
3. No response.
4. No response.

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5. Any plan must recognize that public and/or private roof gardens (“green roofs”), bio-swales, low impact development, and/or recycled roof runoff (e.g., rain barrels, cisterns) are viable, legal alternatives to urban forestation measures adopted for example for storm water control reasons, particularly in residential neighborhoods. In addition, increasing the size and diversity of the urban canopy can be achieved without expanding the City’s established ROW tree list to include huge species such as Douglas Firs, Grand Firs, Western Red Cedars or Big Leaf Maples. Canopy is provided by trees (and shrubs) of all heights and varieties – promoting the tree canopy should not eclipse the importance of planting site- appropriate trees.

6. No response.

7. The maximum tree height for the street tree list should be less than 25 feet because residents already experience too many power outages and funds are wasted pruning trees.

8. No response.

9. No response.

10. No response.

11. The tree list is 100% inadequate because you’ve left out all natives and all existing street trees.

12. The street tree list is completely inadequate. It’s mostly a list of shorter deciduous varieties that are convenient for utility lines and sidewalks. WHERE ARE THE NATIVE CONIFERS?? NOT A SINGLE ONE IS LISTED!! Our native trees both conifer, deciduous +broadleaf evergreens must be protected. They are our gems. The natives must be added to the tree list. Consult the Lake Forest Park Street Tree List.

### **6. Or other ideas you would like to share?**

1. The urban forest management plan should focus on public ally owned trees and public property - parks, schools etc. the city should not inhibit private property owners rights. Neighborhood covenants and view preservation must be acknowledged and take precedence over any new restrictions due to urban forest goals.

2. Along with the above comment, you need to consider, for future generations, the impact of much more severe wind conditions caused by global warming. There are many smaller, native trees that can be used that are more likely to survive high winds than towering, solitary rows of Firs, Cedar, Big Leaf Maple, etc.

3. Why is there an advisory tree board? Why does Shoreline need an urban forestry consultant? There are too many trees now in this city. We have too much shade and our gardens could do better with more sun. I am for the city taking care of city property and respecting the private property rights of each resident and the various covenants such as those in Innis Arden where there are approximately fifty acres of vegetation. This is not City of Shoreline property and neither are any of the city residences.

4. If you don't have anything better to do than creating more rules and regulation than it is time to decrease the size of the City government.

5. The City should revisit hazard tree issues and provide for streamlined removal of unhealthy trees on public and private property, even where the hazard is not “imminent”. Any strategy that demands increase in canopy while inhibiting hazard tree removal such as in the current Code is certain to increase risk to public

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health and safety. Finally, I emphasize again that the City needs to recognize the covenants of Innis Arden and work with this community instead of thwarting its attempts to enforce its covenants at every turn.

6. No response.

7. Please do not continue trying to force additional trees onto private property if the owner has other priorities such as gardening, solar panels, or enjoying the sunshine.

8. No response.

9. I have been a resident of Shoreline for nearly 39 years, at 17029 14th Ave. NW. Shoreline attracted me because of the Sound and Mountain views that were, in large part, the result of the foresight and decisive action of Bill Boeing, who platted Innis Arden with a clear intent to capture the spectacular views there. Need more be said about the foresight of Mr. Boeing? His foresight is evident all over Puget Sound country. How much of the Puget Sound economy is the result of what he started here? Too often regulations are adopted with a "one size fits all" mentality. In Shoreline, we have apartment dwellers, condo dwellers and single family home dwellers. And within each of those categories we have sub-categories. With respect to single family homes, some prefer ramblers, some prefer split levels, others two story, etc. Some want to be nestled among the trees and others prefer open air and others prefer view property. Most of the 500 plus homes in Innis Arden are owned by people who prefer views. If people want a forest setting, they may settle east of I-5 or in Lake Forest Park. I paid for a view location in my purchase price in 1975 and I pay extra taxes every year for a view location. My wife and I thrive in sunlight, not in the shadows. In old England, the "doctrine of ancient lights" protected property owners' views. View preservation is nothing new and in spite of its origins hundreds of years ago, it deserves consideration and protection today. My views and the views of my neighbors are fiercely protected by covenants upon which hundreds of property owners have relied upon for years. We are not to be deprived of our property rights by some trendy concept and hastily conceived regulations. "Urban canopy" and "Urban forest" are oxymorons. How can canopy and forest exist over four lane highways, concrete slabs, grocery and hardware stores, shopping centers, park and ride lots, transit stations, apartment complexes and sprawling school buildings? Let's keep the canopy and the forest where they can thrive and prosper and not infringe upon other established and equally worthwhile standards. If city construction has destroyed the canopy and the forest, should the city be destroyed? Should we stop street and highway construction to preserve this canopy? Have public works or private dwellings destroyed more canopy and forest? If concrete surfaces excessively contribute to water runoff, perhaps we should resort to gravel roads and parking lots. Have you considered the benefits of the large lots and the green belts in Innis Arden and the lawn areas around all of the single family homes in Shoreline? Let's not take away what thousands of home owners, not just those in Innis Arden, have chosen as a life style by some trendy concept and ill-conceived regulations.

10. Thank you for all the work on this. It's extremely important for the sustainability & health within our city.

11. This dot program is very confusing. I suggest you recognize each dot as a message in its location.

12. I like community tree plantings, ivy-outs + clean-ups. It would be helpful for both education + on the ground accomplishment if a city staff member organized more school + community service projects.

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### Urban Forest Strategic Plan Public Comments Summary of Additional Feedback Received Jan 22-Feb 7, 2014

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**1. Public Agency Cooperation, City Staffing and Tree Board:** My first concern is what appears to be lack of communication and cooperation among and between city departments around management of plants – particularly those in the city right-of-way...the street along 25th Ave NE and NE 171st was torn up, repaved, restriped, torn up again, repaved, and... once again torn up and repaved. The trees were “pruned”... supposedly so “large equipment” could pass by...the mystery death of multiple varieties of pine trees... The cause does not appear to be the pine beetle, nor is it a common foliar disease, but the trees turn brown very quickly and are completely dead (with their needles still on the branches) within a few months...the dead trees then become vulnerable to storm damage and downfall during high winds. While contracting with an urban arborist to consult regarding public property is a step in the right direction, the education of all impacted by the tree canopy is essential. The Tree Board is comprised of those with expertise and interest in promoting a sustainable environment and should be able to have substantial input into decisions made by the City, rather than input to one department regarding park and cultural services. An independent board that could have input to the City Council directly and reach beyond one department and function to foster collaboration would be more effective.

**Tree List:** The current tree list addresses only street trees suitable for being under wires. The new list is intended to address tree replacement on both public and private property... one tree...might qualify as “sort-of native” – that being the...Serviceberry...according to the code, the only trees that garner any protection are those named on the new list. This protection should include native trees which are appropriate for private property and many which would be appropriate in many unimproved Right of Ways within the City of Shoreline. Both the Cities of Lake Forest Park and Seattle have several species that would be suitable, including our native vine maple...and Cascara... When possible, the largest tree that is “right size for the place” should be planted, whether on public or private property and residents should be encouraged to do so.

**Vision Statement:** ...draft currently as a mix of a Vision and Mission statement and not truly a Vision Statement... A Vision Statement outlines WHERE do we want to be and WHEN do we want to be there. The vision talks about the future and communicates the purpose and values of the...City of Shoreline. A Mission Statement talks about HOW you will get to where you want to be...The Mission Statement should define the key measures of...success.

**Municipality-wide Funding and Tree Removal:** ...look carefully at the budget across all departments. Currently, many large trees are being removed from public property or are being essentially “topped” for many reasons – some founded in real necessity but more often due to lack of consideration of options. Private individuals and even businesses remove healthy trees...failing to realize that removing many trees that have grown up together may increase the hazard because the few remaining trees do not have the support underground that they developed over years. This is costly in many ways. Our forest canopy is a valuable asset that we cannot afford to waste.



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**2. Street Tree List, Tree Board:** ...Lake Forest Park has implemented a feasible urban canopy plan and tree replacement list, which could in most cases be adopted by Shoreline... Shorelines replacement tree list does not utilized one native tree species...Native species should be included in any situation...Native trees and tall shrub species provide a living corridor for wildlife...Lake Forest Park has an Environmental Quality Commission that covers overlap amount various city departments and boards...to establish best management practices. Shoreline should consider this too. Urban trees and mature trees have value to any property under development. Preserving trees under development should be encouraged. Portland has great tree management practices. Urban trees help remove particulates from the air...Preserving trees in a development should be encouraged...Shoreline should utilize other cities best management practice, guidelines and policies to develop ours.

**3. Street Tree List Replacement Trees:** ...it seems unfortunate that the streets are not lined with trees in shoreline. ...could the replacement tree requirement on private property be used to plant trees along the streets in shoreline...? Can we...allot plenty of curbside room for tree roots to get adequate WATER rather than be limited to a small paved opening?...The aesthetics of our neighborhood would benefit from both variety of species and good placement...I think we should require a 3-tree replacement, a location for each tree, and a schedule for that appropriate replacement. Will trees be replaced at Shorecrest High School near Hamlin Park? Who monitors this – will these new trees be planted? **About Species Variety:** ...I replaced a large oak tree and dead pine with several types of trees. I believe that variety (spice of life) applies to birds + creatures and would benefit our neighborhood.

**4. Community Framework – Public Agency Cooperation and Resource Management City Staffing:** Tree related... issues...traverse multiple City departments....Planning and Development are responsible for public and private tree permits and code enforcement; while the Parks Department provides “in house” care for city trees. Public works is involved with the tree related sidewalk and roadwork issues. IT Department with...tracking...and inventory of canopy assests.

**Resource Management Municipality-wide Funding:**...It might be worth “pooling” some of the canopy-related costs currently spread (across)...departments into supporting the “intersection” of departments where more fully informed decisions could be made. Tree Board was established by Council as an element of the Parks Board to avoid cost impact of 15 additional staff hours (Feb 2012 staff report). Considerable staff time has been used to support the PRCS Board on Tree Board issues. The PRCS Board has established a good baseline for the future management funded by grants.

**Tree Board:**...This is an ideal time to bring those who specialize in canopy-related subject matter into the picture where they can help educate others and provide an exper4t-based approach to solving cross-organizational issues surrounding our canopy by creating an independent Tree Board to help the city realize its Urban Canopy Strategic Plan...It seems like this is the right time to transition the care of our urban forest asset’s future growth to a more focused, forestry-based board which can contribute to the implementation of the strategy....Canopy experts in will provide the most informed, science-based guidance while also working to educate/train those who want to know more and/or volunteer.

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**5. Urban Forest Strategic Plan Public Involvement Process:** I want to recognize and thank the tree board and the Parks Board on creating an opportunity for the community to voice their thoughts and ideas about our city's trees. I am hopeful that the information you received is helpful in understanding what the city as a whole thinks is a priority. I look forward to the follow-up event.

**6. Tree Canopy:** ...I feel that there are several issues that just expanding the tree canopy as a One-Way-Fits-All approach has not considered.

1.) Storm Water. If storm water is the issue behind the expansion of tree canopy, then other alternative such as bio-swales, rain gardens, and retention of rainwater from roofs on residential sites and businesses, cisterns, etc can be allowed as an alternative to both ROW trees and residential areas. A smarter approach to managing surface water might be to allow a combination of approaches, e.g. also allowing LID alternatives such as Bio-swales in the ROW.

2.) Solar Power. The City should allow trees to be removed when they interfere with generation of electricity using Solar Panels, including this as a exemption to any tree canopy requirements.

3.) LID. Trees in Right-of-Way offer multiple problems because power lines, lighting, and sidewalks are placed here. If the City wants to add native trees such as Douglas Fir, Grand Fir, Western Red Cedar, or Big Leaf Maple to the approved list, it has to budget for the maintenance of ROW trees. Thus, any change to the ROW trees should carefully consider the financial cost that the City would be responsible for. ...you need to also determine how you are going to pay for actually pruning trees, evaluating hazardous tree potential, or correcting sidewalk issues.... using qualified professionals. The 2012 Engineering Development Manual...advocates the Low Impact Development strategies....include alternatives to increased tree canopy as a means of controlling surface water runoff.

4.) Gardening. The urban forest plan should be drafted so as not to impose any issue with respect to gardening or solar access....Vegetables and some flowers do not do well without sunlight that an extensive tree canopy will restrict.

5. Water Usage. Another issue that extensive canopy coverage can cause is restriction of plant life in the understory. The net effect of extensive canopy coverage could actually result in even more use of water to keep landscape shrubs alive during the summer season. Thus, solving a problem during the wet winter season by a single approach may cause another problem, such as over usage of water, during our dry summer season.

**7. Trees and Private Property:** How can this be the USA when the bureaucrats in Shoreline are threatening to take away our property rights?...I happen to like sunshine. It helps my garden grow, brightens my mood and warms my house. I don't like the darkness provided by trees. A neighbor wrote "One of my concerns is that the City allows for deforesting on development sites, for the purpose of allowing the building of new and additional tax parcels. Then they would like burden the existing land owners with their plans to reforest our City....New restrictions typically apply to new developments and not to established properties that are deemed to have vested property rights...."

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**8. Trees on Public vs. Private Property:** It is our opinion that any efforts towards urban forestation should take place on City-owned properties like parks. Policies should NOT conflict with any private covenants. The number of trees which exist within Innis Arden is far greater than what will be found throughout Shoreline on a per-acre basis. Our covenants for "water and mountain views" must be respected; they have, after all, been upheld in the courts. ...we wish to be able to continue to have removed trees which are view-blocking, including inappropriate trees planted years ago on City right-of-ways.... There are plenty of tree varieties, including native trees, which better suit the need and will not lead to damage and other problems as they grow to a reasonable height. Adding more trees on residential streets and private property will only increase the homeowner's inability to maintain their property, thus lowering property values and making Shoreline residential properties less desirable.

**Solar exposure:** It is not healthy to live in an environment where natural light is blocked from entering homes, and also prevent the sun's rays from nurturing the growth of home gardens. Solar panels are increasingly being installed in older and new homes; they can't function with filtered light coming through tall trees. I have noticed a huge number of Shoreline homes, surrounded by tall trees, which have roof tops covered with thick moss and tree debris....

**Street Tree Maintenance:** The maintenance and upkeep of any newly planted trees on public property should be seriously considered from the standpoint of maintenance, cleaning up leaves, interference with the sewer system, etc. The current City policy with regard to hazardous tree removal must be revisited as these trees may well pose a huge hazard to public safety.....now or in the near future...

**9. Trees on Private Property:** Long-standing covenants should take precedence over urban forest policies. Don't overspend on urban forests at the expense of regular maintenance. The plan should recognize private vegetation management plans.

**Resource Management- Staffing:** Excessive staff time spent on being a "Tree City" should be carefully controlled. Regulatory burden and its increasingly onerous cost to private property owners should be minimized.

**Solar Access:** Solar access is just as important as canopy increases.

**10. Trees and Private Property:** The UFSP purposes to "guide...management of public trees" ...throughout the Matrix, there are references...to a city-wide urban forest management plan with repeated references to "private property" and "private land" in addition to public trees. However, throughout the Matrix there are references to private property. The Board has failed to adequately describe the scope and objectives of this planning process.

1. Tree Canopy should occur on city property such as parks: ...the Urban Forest Strategic Plan should not be a vehicle for increasing tree canopy burdens on private property owners...The focus of this planning effort must be on City-owned property, with an emphasis on parks...Residents...can be encouraged to increase tree canopy, but cannot be required...any measures to increase canopy should address areas where canopy is currently below the...average starting with commercial and business districts and properties which contribute...to storm water and carbon problems...

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2. **Code Amendments, Credits and Incentives for Private Stewardship:** ...The City should re-establish the former Code provisions for long-term vegetation management plans that permit ongoing stewardship of open space tracts without the need for piecemeal permitting...The City has failed to take action this in the past: the current planning effort provides a key opportunity.
3. **Management of Trees and Private Property Rights:**
  - a. ***Respect Private Covenants*** ...It is in the interest of the public...to establish standards for the resolution of view obstruction claims so as to provide a reasonable balance between tree and view related values. Other cities...recognize the importance of views, and the private covenants adopted to protect them. (Clyde Hill Code 17.38.010.D and Mercer Island code 19.10.040.B)
  - b. ***Tree canopy and Solar Access and Home Horticulture...***"Urban Forestation" efforts cannot trump...right to solar access...The urban forest strategic plan should...permit removal of public trees where they interfere with...(existing or potential) solar panels...The plan should...recognize solar access for horticulture, including home gardening, and...exempt tree removal where private...gardens (or community gardens) are threatened by inadequate solar access.
  - c. ***Limit Street Trees by size and species...***The City should reject any proposals to expand the City's current street tree list to include larger varieties of trees...that are not appropriate for rights of way due to damage they cause to public (and private) improvements. Species allowed on rights of way should be limited to a 40-foot maximum height...Any proposal to increase the potential height of right of way trees, add problematic species to the tree list or make it harder to removal trees found to violate...covenants, would be counterproductive...
  - d. ***Trees and Storm water Management/Greenhouse Gas Reduction Goals...***the UFSP planning process should recognize that increasing the tree canopy is only one means of achieving the goal (green house gas reduction and storm water management)...other low impact development practices are viable...alternatives to increasing the tree canopy...the urban forest strategic plan should...develop policies for incorporating a broad variety of native trees and shrubs that provide canopy diversity without interfering with public or private infrastructure, solar access or views.
  - e. ***Tree Removal Permit Process...***the City eliminated a former permit exemption to allow removal of an unhealthy tree that posed a "non-imminent hazard", based on an arborist's report. Requiring a permit to remove "non-imminent hazard" trees creates an...incentive for property owners to overlook diseased or damaged trees...

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### Urban Forest Strategic Plan Public Comments Summary of Feedback Received During April 8 Open House And from April 8-May 19, 2014

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1. Hats off to all involved in what must have been an arduous process. I am really impressed in the level of detail of the plan, especially the information contained in the Appendixes. Once approved by the City Council, funding will be imperative to move forward with the goals inherent in the plan. Without a budget, this will be a paper document only with little effect on current practices or achieving the Mission stated in the plan

It was stated at the open house that most of our tree canopy resides on private lands. Even though the Vision of the plan confirms that we value our urban forest, and the Mission of the plan is to protect and manage this important community asset, how will this come about without funds for enforcement of our current tree permit system in regards to trees on private lands? Without a strong community education program, how can we ensure that private landowners understand the important environmental role that trees play in storm water management, CO2 sequestering, noise abatement and air pollution? How do we achieve the desired level of Shoreline's canopy cover (50-75% of the potential as listed in the Matrix) if we lose trees on private lands at a greater rate than trees are planted on public lands?

Like many others in Shoreline, I am saddened when I see another large conifer become the victim of the chain saw. However, I also realize everyone has different goals for their residential property. Perhaps vegetable gardens, solar panels, or concerns for safety drive the decision to take down a large tree. What I am hopeful for in the development and implementation of this Urban Forest Strategic Plan, is that the city will form strong partnerships with groups such as Diggin' Shoreline and Kruckeberg Botanic Garden Foundation to help get the message out about Shoreline's Urban Forest Strategic Plan. Both of these groups already have strong educational components. In addition, utilizing the organizational structures of our neighborhood associations, and having material and information available at events such as Celebrate Shoreline, Earth Day, Solarfest and the Farmers Market, could achieve many of the educational goals of the Plan without much outlay of funds.

I reside in the Echo Lake Neighborhood. For the fifth year in a row, Merlins (a small Falcon) have selected our neighborhood to raise a family. They always choose a different tree each year, utilizing an old crows nest, and always use a large conifer. This year the nest tree is a very tall Doug Fir, right on Ashworth Ave N., Just North of N. 188th St. Their 'Kee Kee' calls can be heard for blocks away. I am hopeful that with the implementation and funding of this crucial Urban Forest Strategic Plan that their calls will still be heard fifty years from now. Again, thank you for all the hard work put into the development of this strategy to protect an important community asset.



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2. The comments below supplement comments from February 7, 2014 by the Innis Arden Club.

**A. Species Suitability for Urban Environment / Street Trees**

The Draft UFSP's "Key Priority No. 2" calls for updating the City's Right of Way ("ROW") Tree Species List. According to the Plan, this update would address a perceived need for additional "age and species distribution" among publicly owned and managed trees. This perception is apparently based on the City's 2013 Street Tree Inventory. However, that inventory was not based on a complete assessment, but was limited to ten City corridors. It therefore does not represent a thorough investigation into existing street tree age and diversity

distribution across the City. In addition, it does not take into account the existing age and species distribution for trees on other types of City properties, including but not limited to parks.

The Innis Arden Club agrees that the City should prudently manage its public trees. One goal of such management would be achieving healthy age and reasonable species distribution. However, management based on assumptions would be imprudent. A street tree inventory of just ten City rights of way is not a reasonable baseline from which to draw conclusions regarding the age and species distribution of all City trees, let alone to formulate goals and strategies for "improvements." The scarcity of funds for UFSP projects makes it all the more important that "improvement" projects are first supported by thorough research. Completing a comprehensive assessment of public trees should therefore be the first task under the "Species Suitability" goal/strategy. The tree list should only be amended if the *city-wide* research discloses a significant deficiency in public tree age/species distribution overall.

As discussed at the Open House, the Innis Arden Club agrees with the City that, if the City's tree list will be amended, two distinct lists must be established — one for street trees and one for all other City properties. This concern was echoed by advisory Tree Board members at the April 8 session and should be clearly called out in the next draft plan.

Promoting the public tree canopy should not eclipse the importance of planting site-appropriate trees, particularly in the ROW. The UFSP should explicitly recognize that a sustainable urban forest, with adequate diversity in tree species and age/size, can be achieved without allowing large trees on ROWs, where they will interfere with public/private infrastructure, solar access and legally protected (including covenanted) views. Even if the desired "age/species distribution" on improved ROWs were to fall short of over-all diversity targets (there is no indication it will), these targets can still be achieved, city-wide. The Plan should include -- as a top priority -- establishment of criteria for "site appropriateness" for ROW trees that recognize these principles.

The April 8 Open House, was encouraging in this regard in the sense that assurances were offered that strategies for species and age diversity would be subject to such considerations. In particular, there were assurances that the Plan would not permit potentially view-blocking trees to be planted in areas such as Innis Arden where they would create conflict with, *inter alia*, view covenants. However, upon review, the draft Plan language cited in support of this assurance is too vague:

For species suitability and distribution, use of a diverse and appropriate species list for all community plantings.

Neither "appropriate" nor "species suitability" clarify that ROW trees will be chosen with regard to avoiding conflict with longstanding view covenants. While the Open House verbal assurances were a good first step, the written Plan must clearly acknowledge that a threshold criterion for a ROW street tree will be avoidance of conflict with longstanding community view covenants.



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Large conifers and deciduous trees such as Douglas Fir, Western Red Cedar, oaks, big leaf maples, and others have their place in the City, but not in rights of way. Expansion of the ROW tree list to include such species would result in damage to utilities, block solar access and impair protected views. The public and private financial burden of dealing with such trees in the ROW should be avoided by keeping them off the ROW tree list in the first place. While such species can be sited elsewhere in the City, there is no public imperative for allowing them in rights of way.

A “compromise” was reached by the City and Club two years ago with the establishment of the current process for removing street trees. SMC 12.30.040. It is not ideal, but there since have been no new conflicts regarding street trees. However, any proposal allowing potential increase in ROW trees, adding problematic species to the ROW tree list, or making it more difficult to remedy impairment of covenant-protected views by ROW trees would be counter-productive and potentially reopen a legal discussion that both the City and the Club were glad to put behind them two years ago.

### **B. UFSP Plan Requires Further Clarification Respecting Its Limited Scope**

The Draft Plan’s “Executive Summary,” “Introduction,” and “Conclusion” still blur the line between management of public versus private trees, e.g., through general references to City management of the “Urban Forest”. References to the Plan as “liquid” and amenable to expansion have contributed to concerns about its current scope. Nonetheless, the consultant and Board members have verbally assured that this strategic planning process is only about management of rights of way and publicly-owned portions of the over-all “urban forest,” public education, and the creation of certain incentives for private tree management. What remains, therefore, is for the written product to explicitly spell out that, with the exception of education and incentive programs, the overall UFSP process is limited to addressing the urban tree canopy through goals and strategies for rights of way and publicly-owned areas.

### **C. Prioritizing Re-Establishing a Framework for Large Tract Stewardship Plans**

As noted above, the current draft Plan is supposed to assess and address “public” trees. That said, a City planning initiative to re-establish a framework for private large tract tree stewardship would be a constructive corollary. Such an initiative would require leadership by the Planning Department, but the UFSP prepared under Parks Department auspices could usefully call for its initiation. In particular, UFSP Appendices C and D should place a high priority on fostering of “stewardship” or “vegetation management” plans for large private tracts, with the private burden and expense of individual plans, if approved by the City, supported by City incentives (e.g. streamlined permitting and exemptions).

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Dear Mayor and Members of the Council:

The Innis Arden Club appreciates the acknowledgements concerning the Urban Forest Strategic Plan (UFSP) that the City's intent is to limit street tree approval to "site appropriate" trees. What remains is to reaffirm that in Plan language. This can be readily accomplished by the following refinement to the Plan wording now before you for adoption (proposed added language is underlined):

May 19, 2014 Draft Plan at page 15:

Strategies for species suitability and diversity –

- Updated Tree List – section for unimproved ROW, natural areas, open spaces and section for improved ROW – include detailed information on growth, space limitations, maintenance issues, legally protected views.
- Enforce compliance with development to put right tree in right place.
- Use list for new plantings, not as an approved list for existing trees in the ROW, and recognize that listed species may not be appropriate in some circumstances (for example, where they interfere with infrastructure or legally protected views).

These refinements will clarify -- in the Plan itself -- the stated intention that deference will be afforded existing view covenants such as the Club's, when "site appropriateness" determinations are made regarding street trees.

\* The tree board did a great job on Appendix A "Urban Tree Benefits" outlining the many advantages of forest canopy in the city, listing a few things that I had not heard of yet. This outline will be a good tool in developing community education programs and possible funding sources/justification for projects.

\* The plan spoke primarily to public (Shoreline owned) trees and not so much to privately owned forest canopy. "Private trees are a public resource" Michael Oxman ISA Arborist. Though many are sensitive to anyone asking them not to cut down all the trees in their back yard, these trees benefit not only them but the whole neighborhood. We do have building codes that are required for public health and safety that apply to our houses. Perhaps some future thought can be put toward standards for enhancing this majority of our forest canopy. Lake Forest Park has done some great work on this subject.

\* The 2011 "Urban Tree Canopy Assessment" of shorelines trees suggested that we currently have an average forest canopy for a city in our region of 31%, with the ideal being 40% (American Forests standards). It suggested a reasonable goal for us might be 35% forest canopy and said that adding even just 1% to our existing trees would save us about \$500,000 in storm water runoff management costs, and additional health and air quality savings. Seattle's Urban Forest Plan is to increase their forest canopy by about 7% in the next 20 years. Yet our Strategic Plan suggests maintenance of existing coverage not expansion as our goal.

\* The Strategic Plan does a good job of outlining priorities and provides a rough ballpark for project costs. It might be worthwhile to also develop some innovative funding ideas for the goals outlined. Things such as perhaps neighborhood tree planting or pruning events, or classes. Crowd sourced hazard tree reporting et-cetera. With the trees we had planted on the Interurban Trail we got a nearby volunteer to water them for the first couple years. A neighborhood adopt-a-tree program especially for new plantings might be a possibility.